

FIG. 1

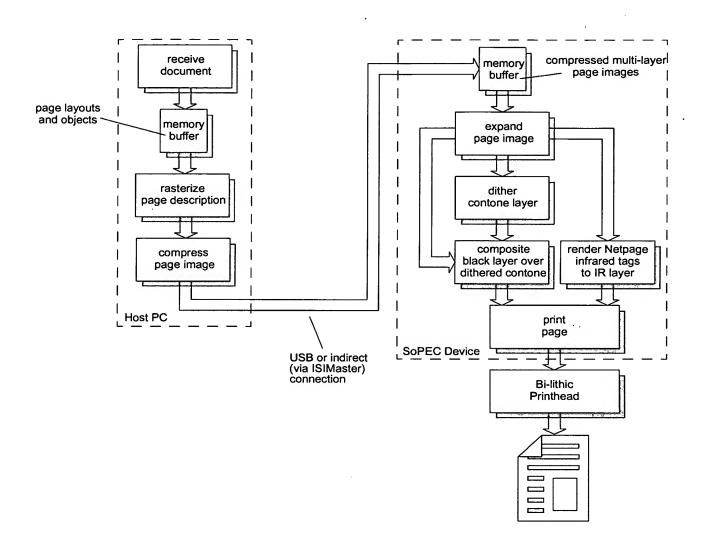


FIG. 2

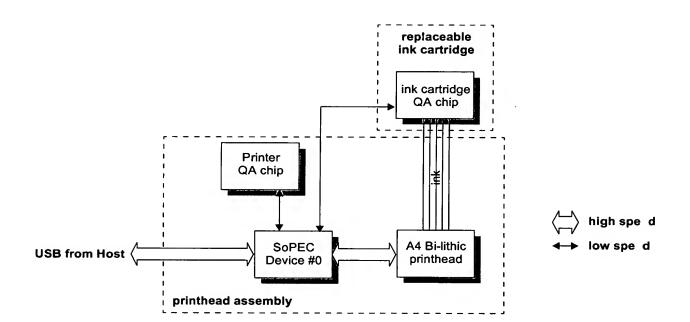
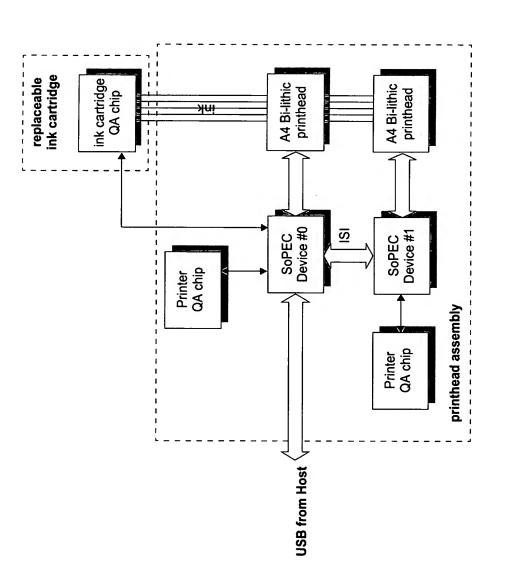


FIG. 3

 $\langle \Box \rangle$ high speed

→ low speed



F1G. 4

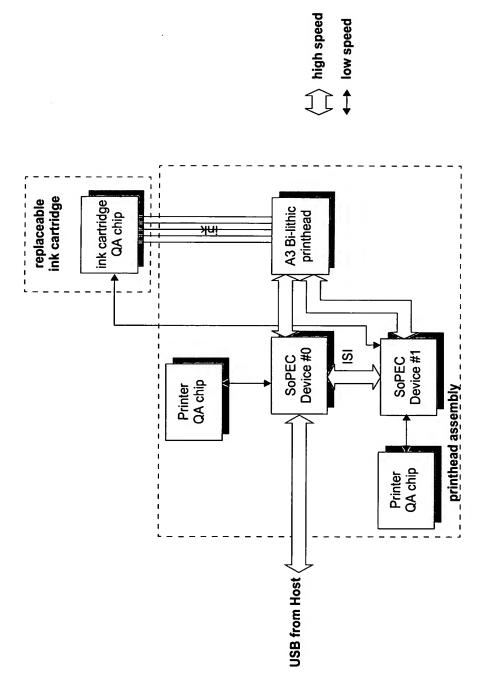


FIG. 5

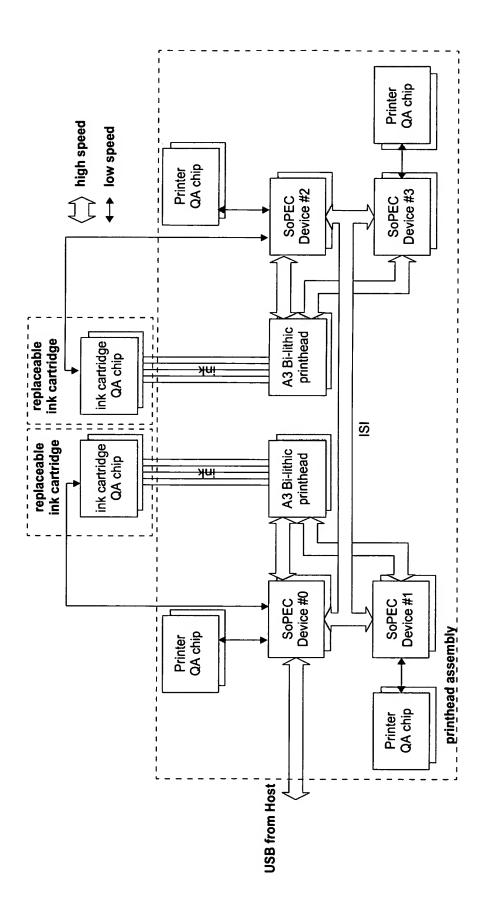
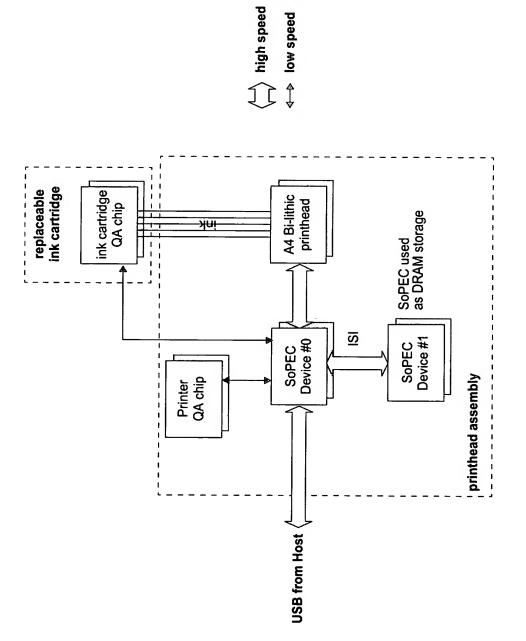


FIG. 6



F1G. 7

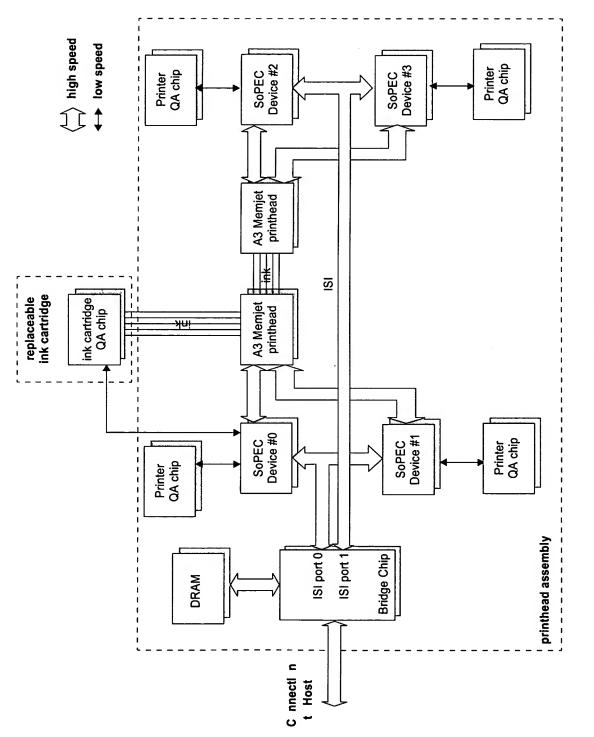
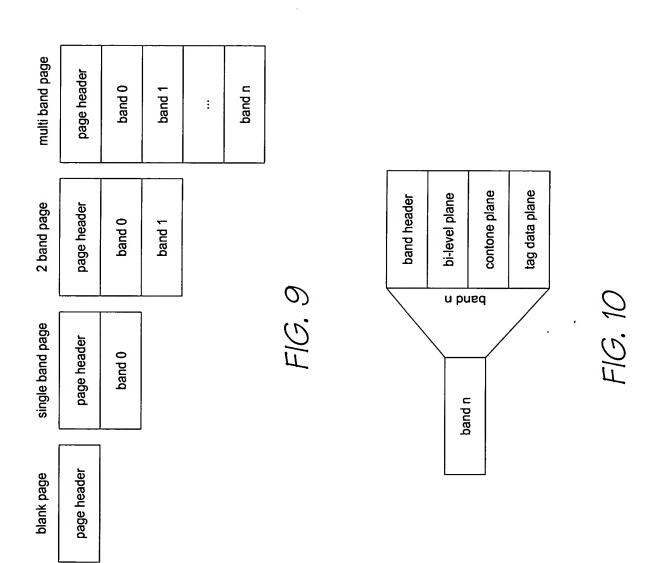
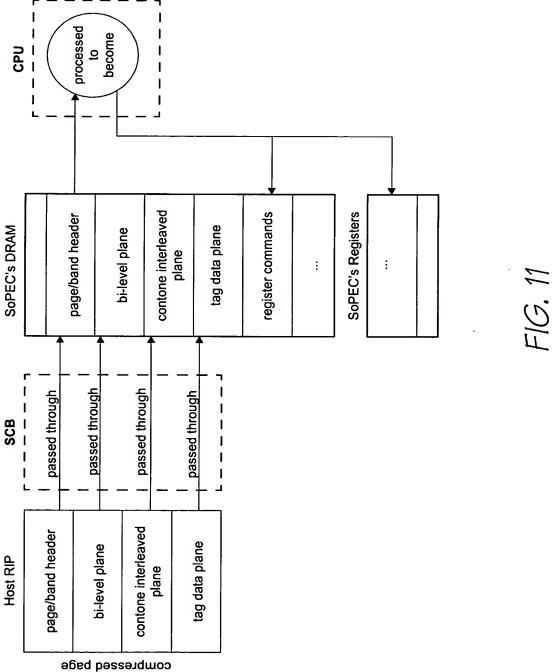


FIG. 8





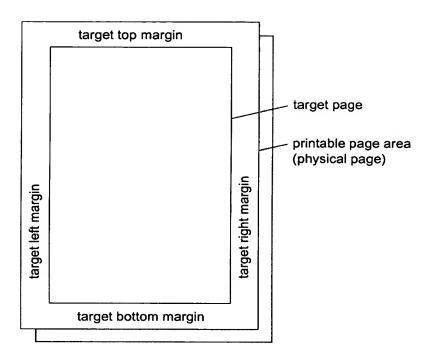


FIG. 12

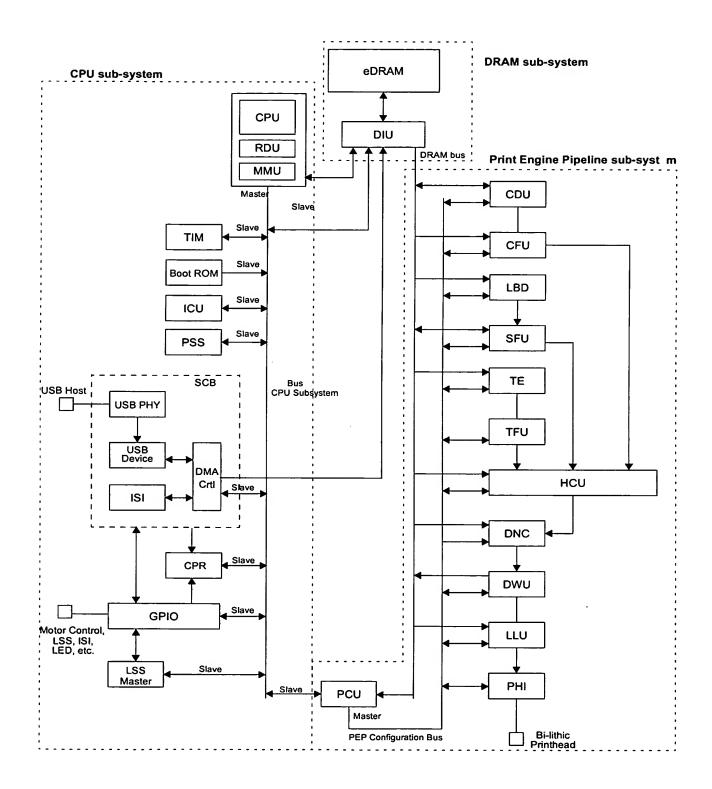


FIG. 13

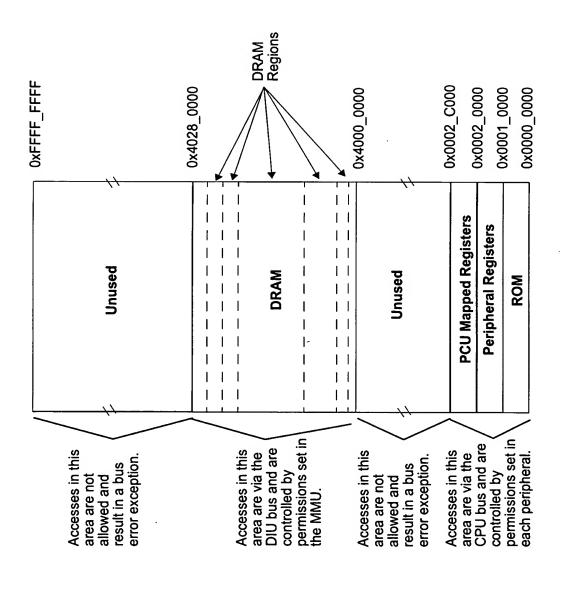


FIG. 14

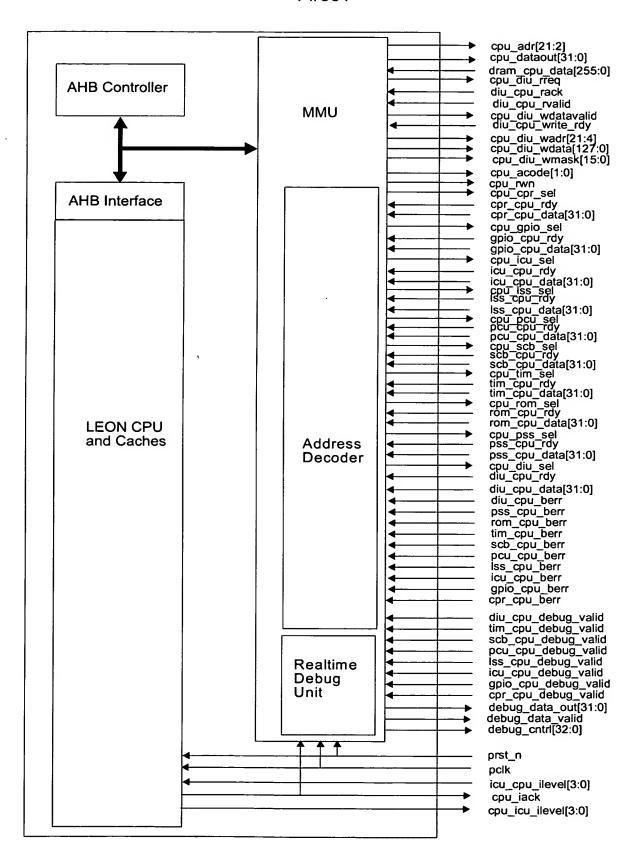


FIG. 15

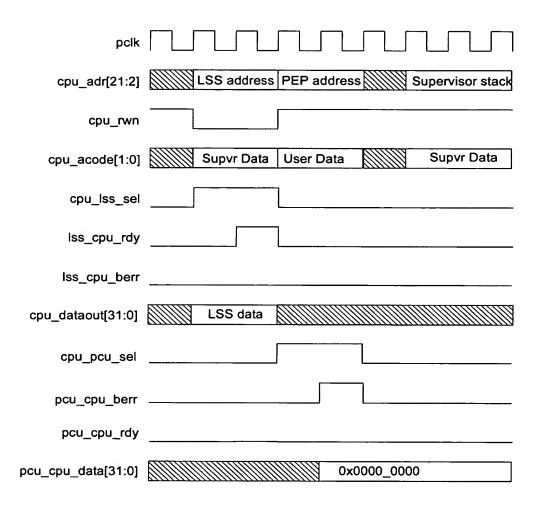


FIG. 16

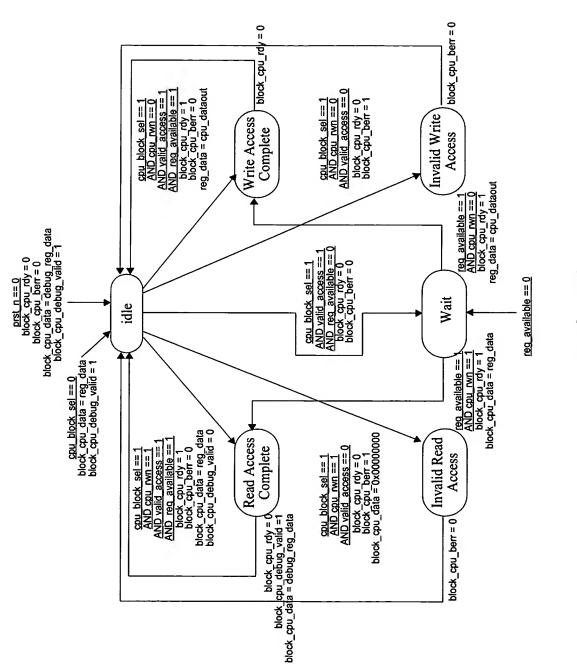


FIG. 17

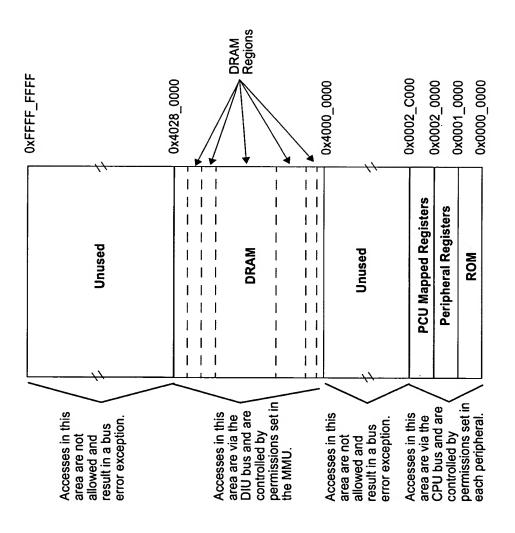


FIG. 18

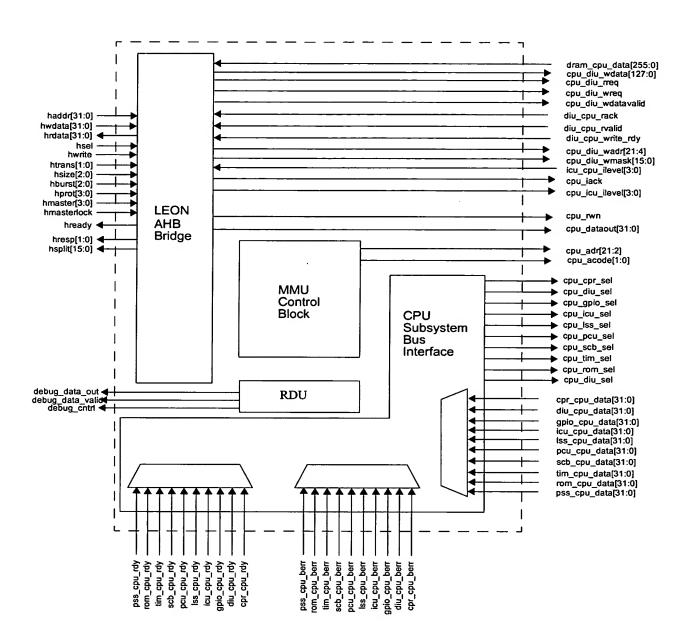
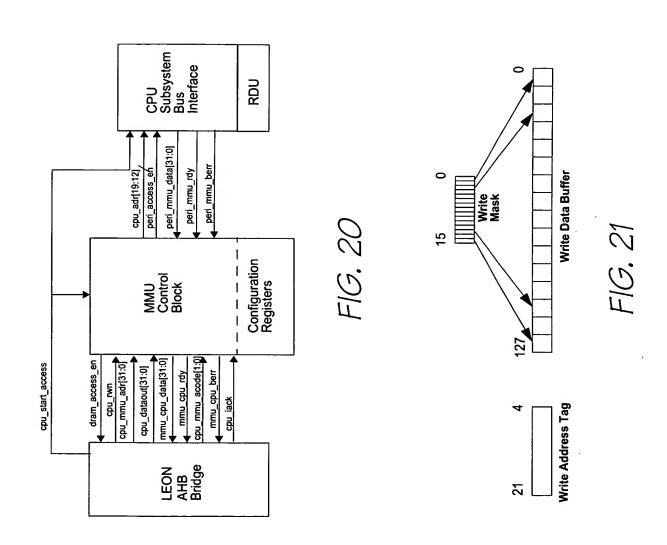


FIG. 19



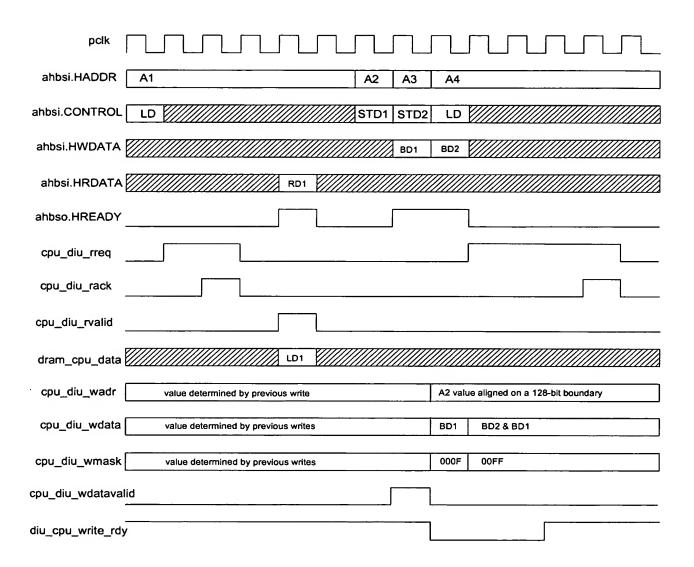


FIG. 22

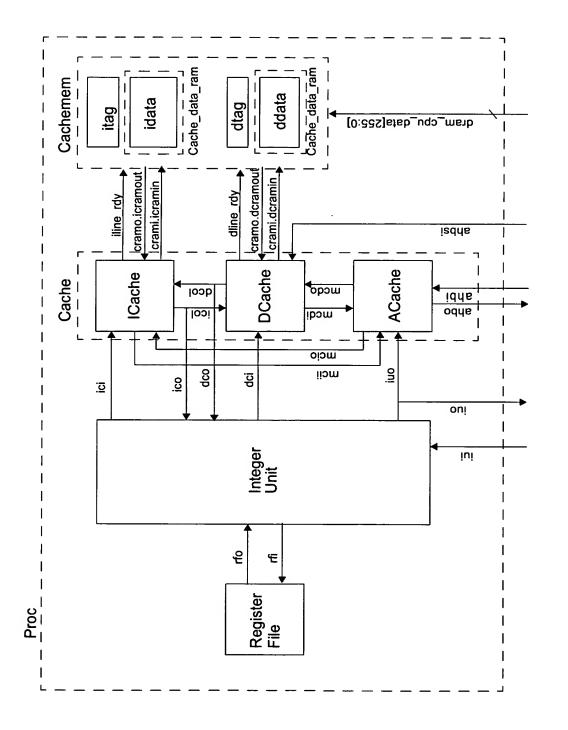
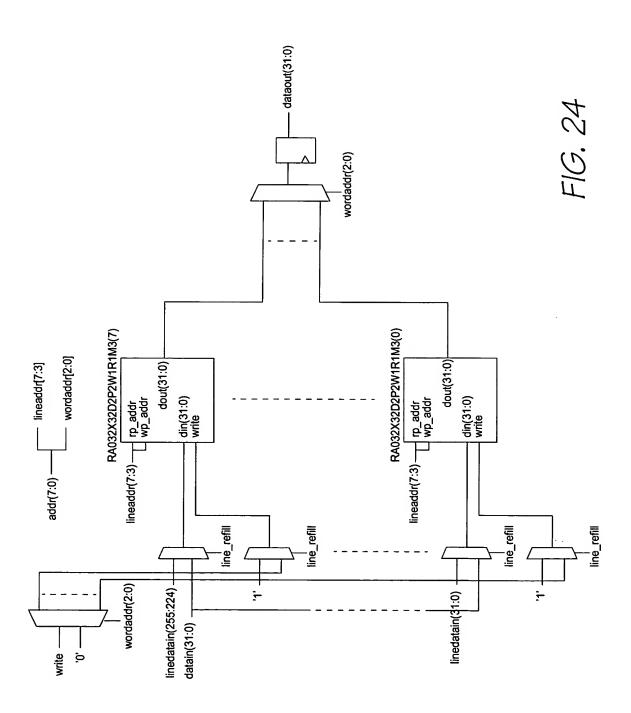
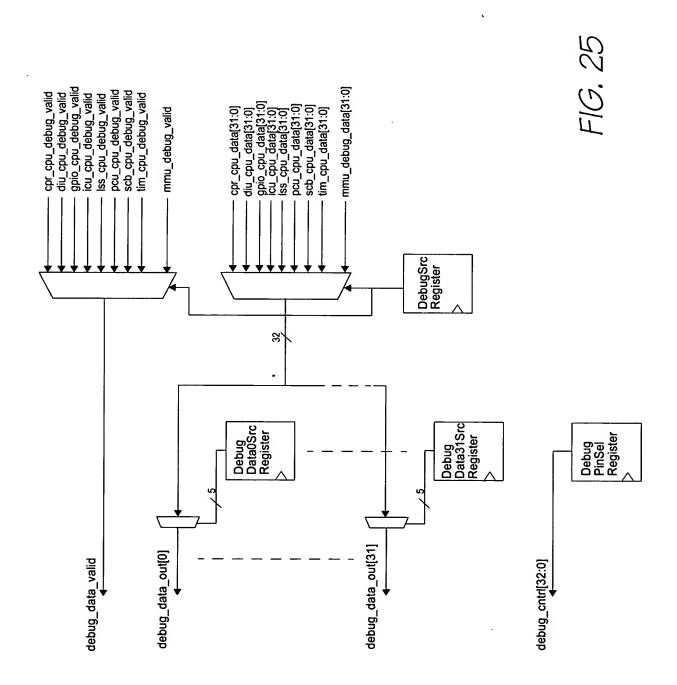


FIG. 23





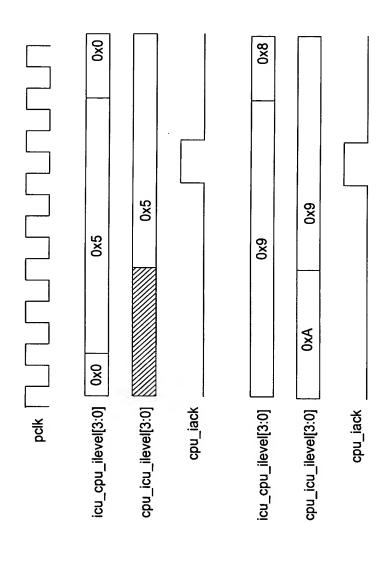


FIG. 26

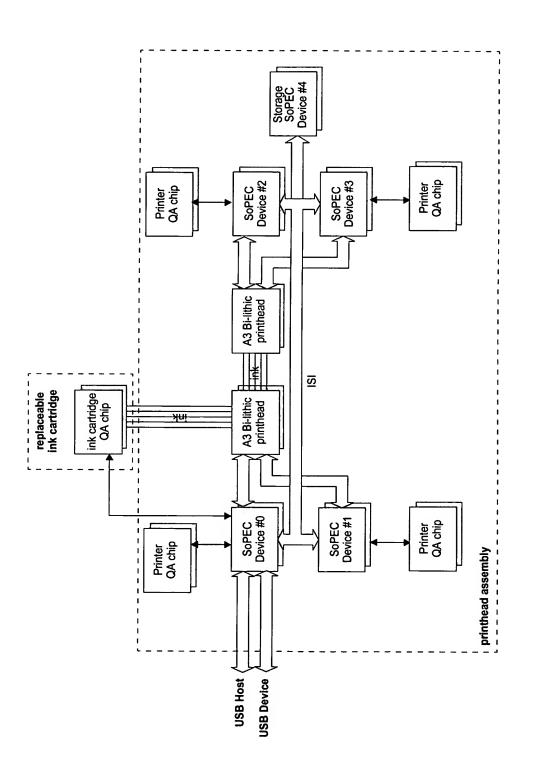


FIG. 27

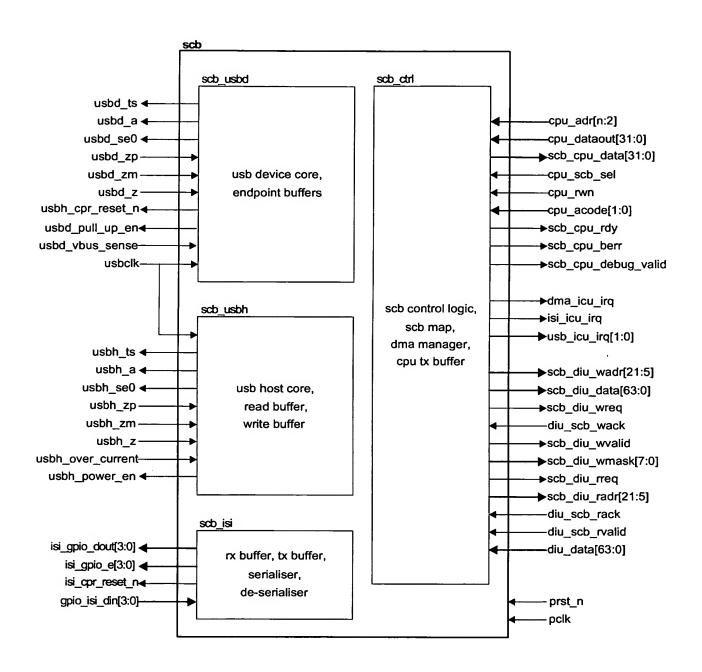


FIG. 28

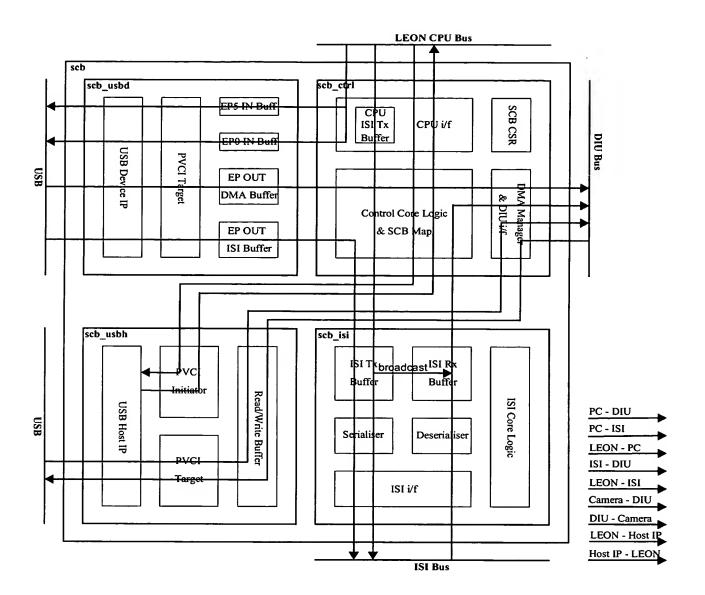


FIG. 29

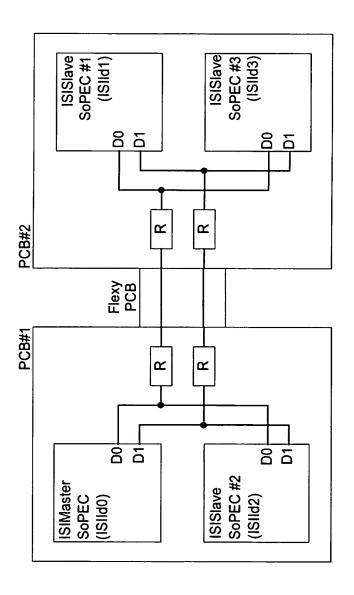
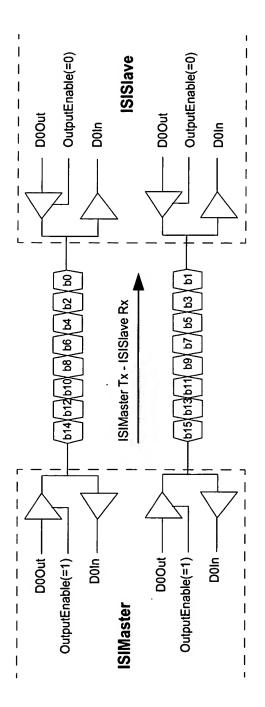
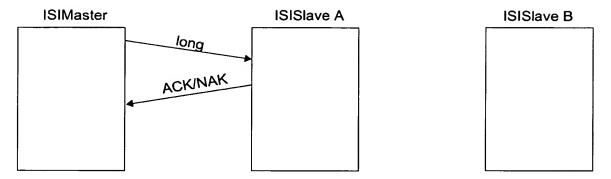


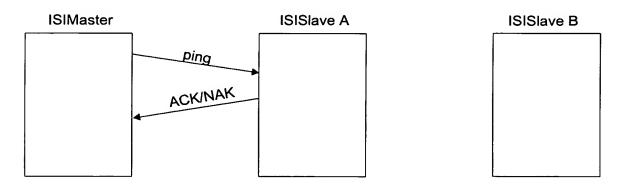
FIG. 30



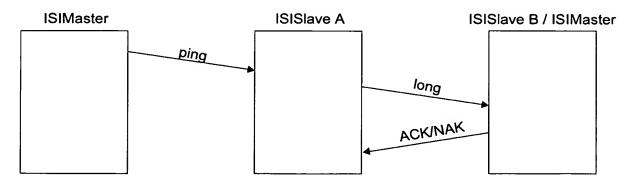
F1G. 3



Transaction 1: Long packet to an addressed ISISlave



Transaction 2: Ping packet to an addressed ISISlave. ISISlave has nothing to send



Transaction 3: Ping packet to an addressed ISISlave. ISISlaveA responds with a long packet to ISISlaveB (or the ISIMaster) and ISISlaveB (or the ISIMaster) responds with an ACK or NAK.

FIG. 32

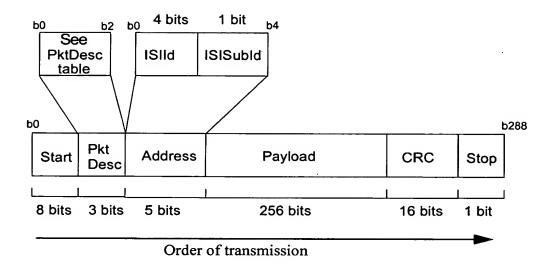


FIG. 33

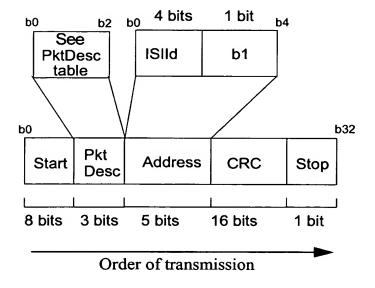


FIG. 34

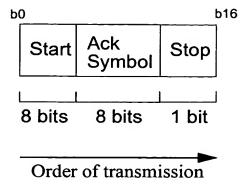


FIG. 35

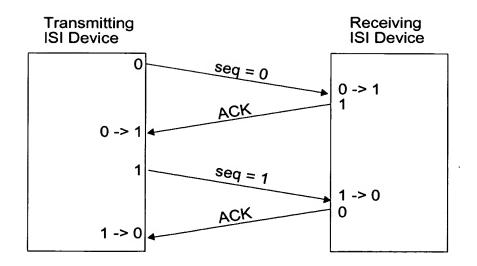


FIG. 36

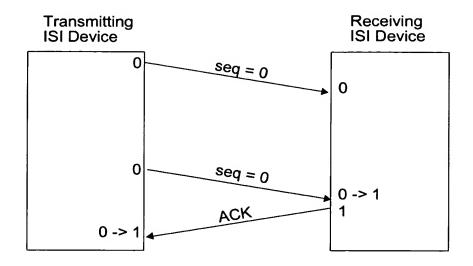


FIG. 37

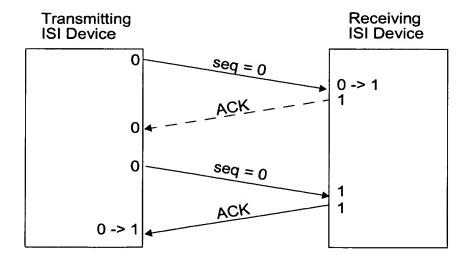


FIG. 38

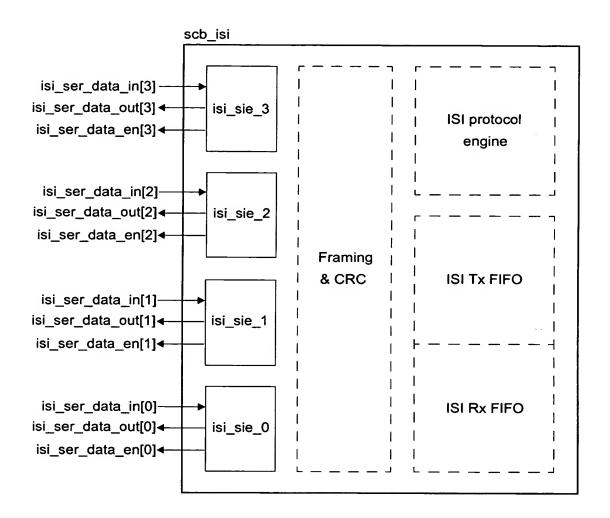


FIG. 39

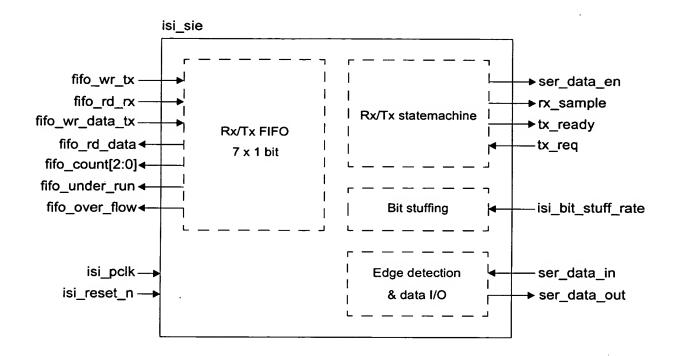


FIG. 40

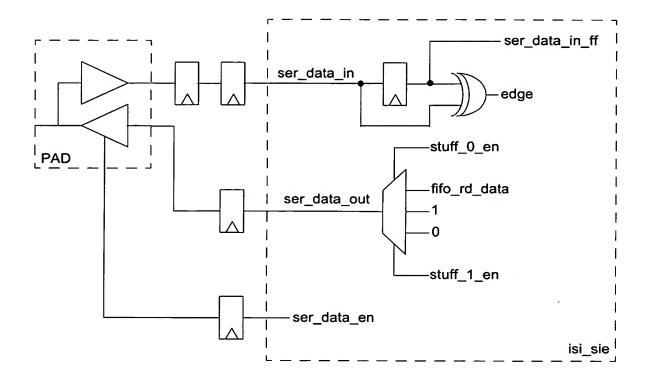


FIG. 41

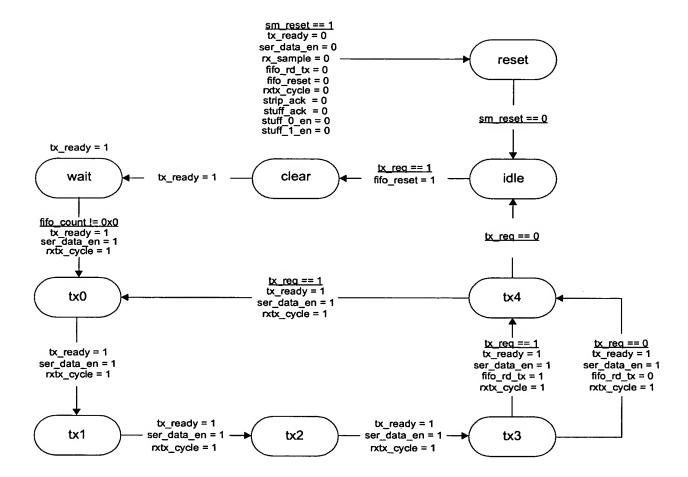


FIG. 42

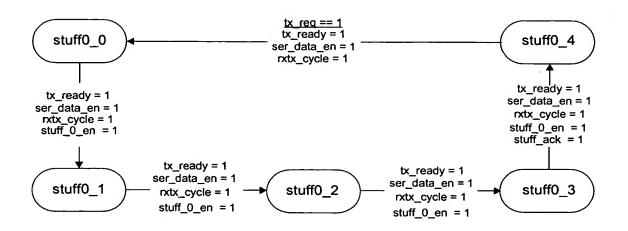


FIG. 43

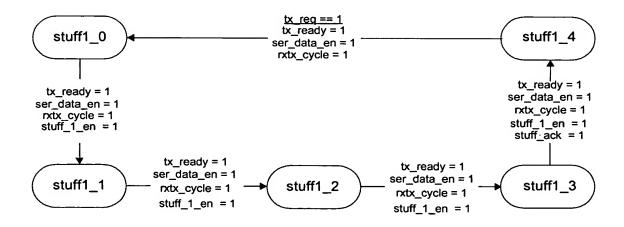


FIG. 44

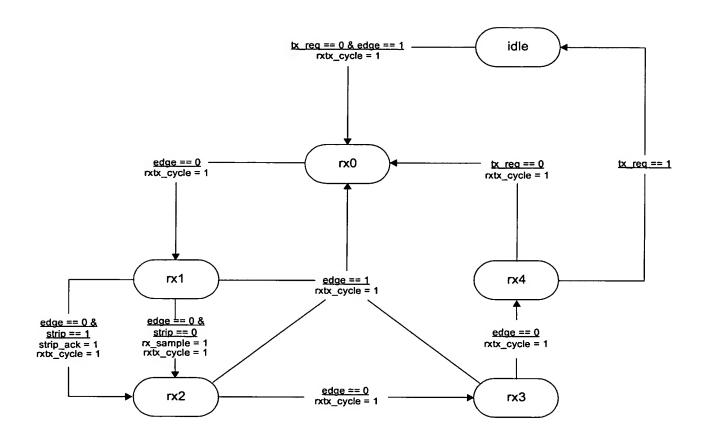


FIG. 45

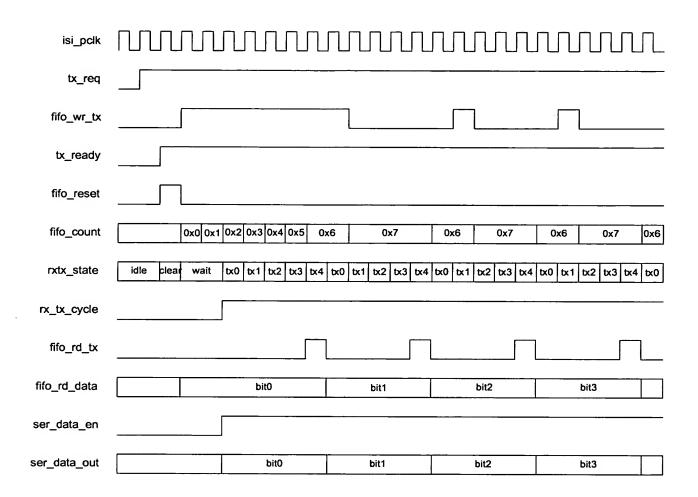


FIG. 46

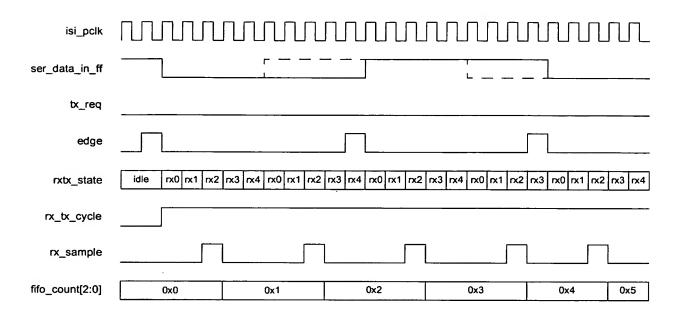


FIG. 47

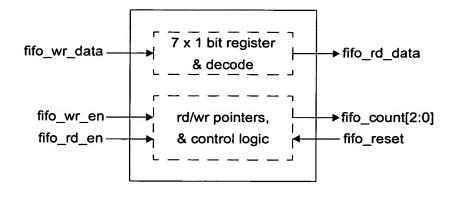


FIG. 48

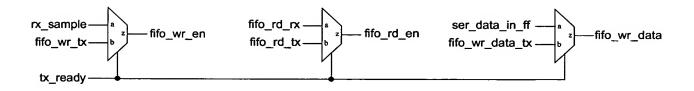


FIG. 49

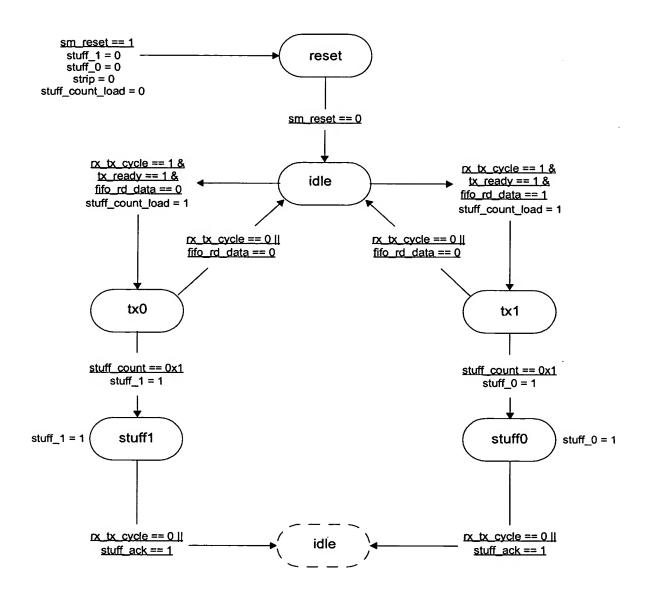


FIG. 50

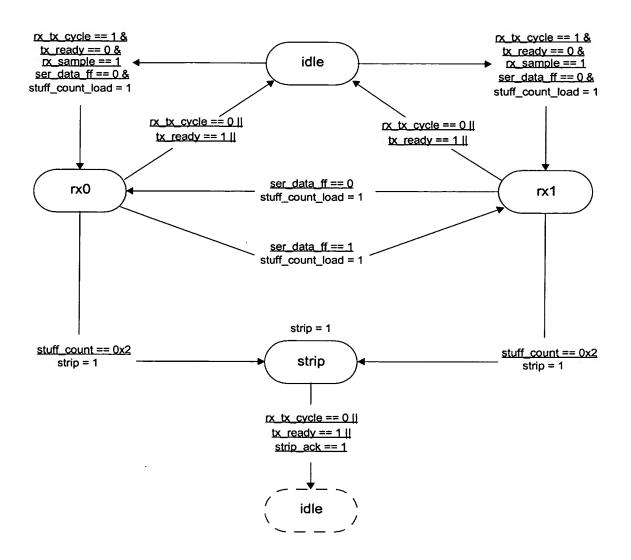


FIG. 51

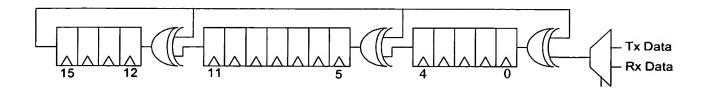


FIG. 52

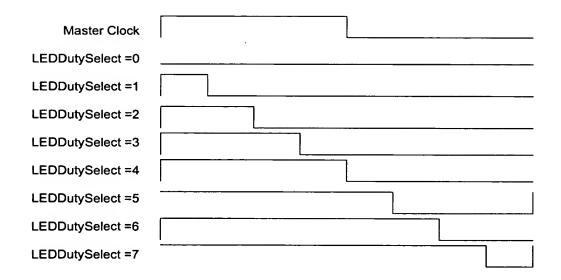


FIG. 54

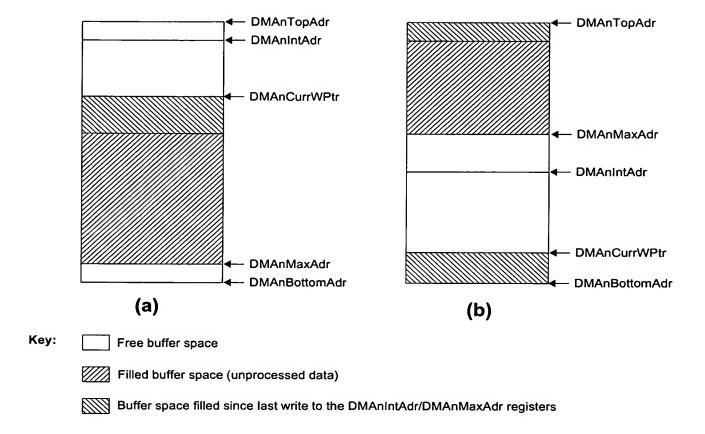


FIG. 53

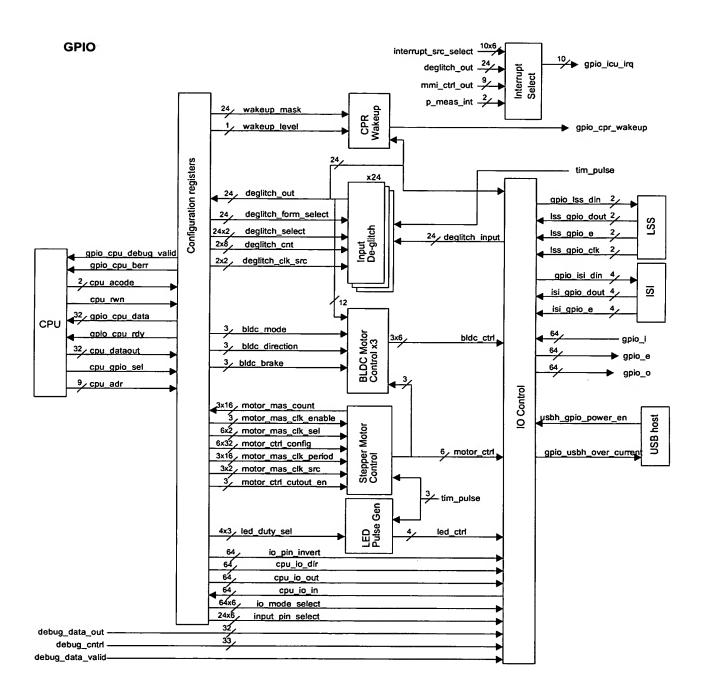
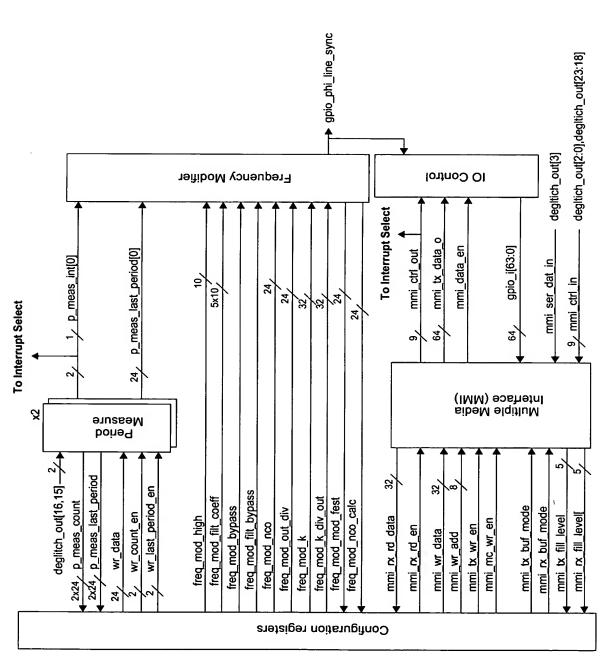


FIG. 55



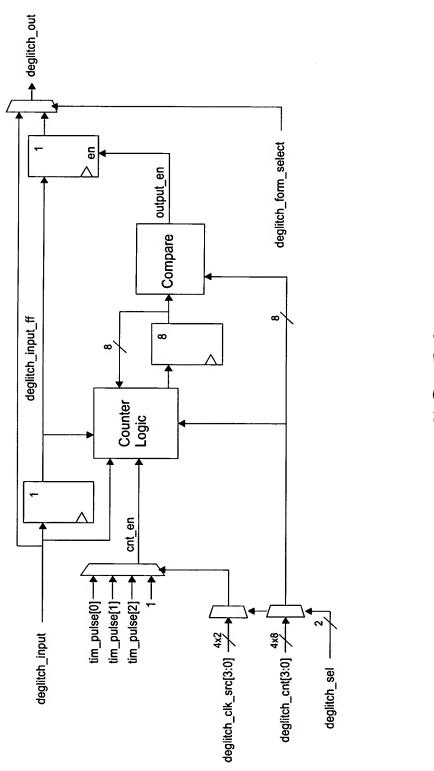


FIG. 57

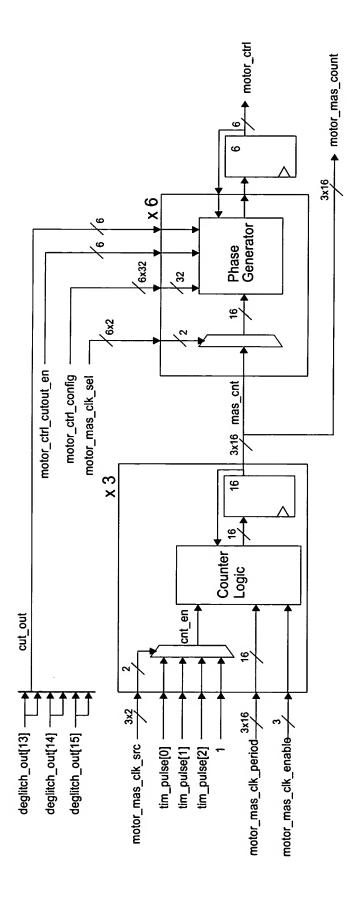
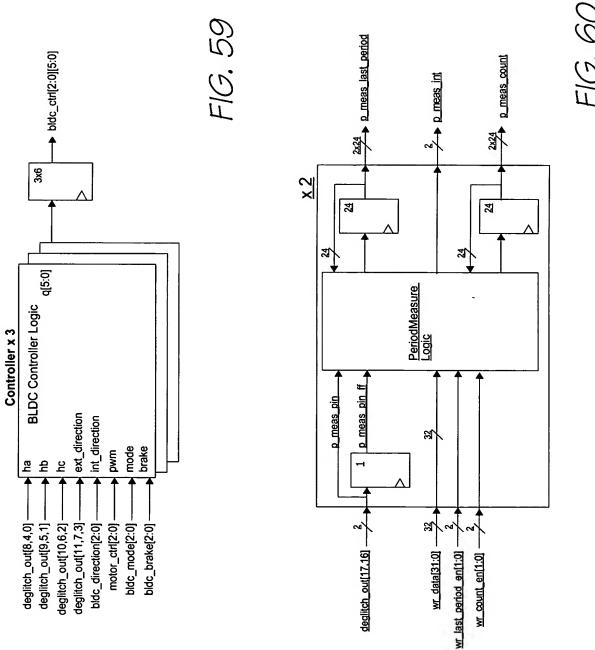
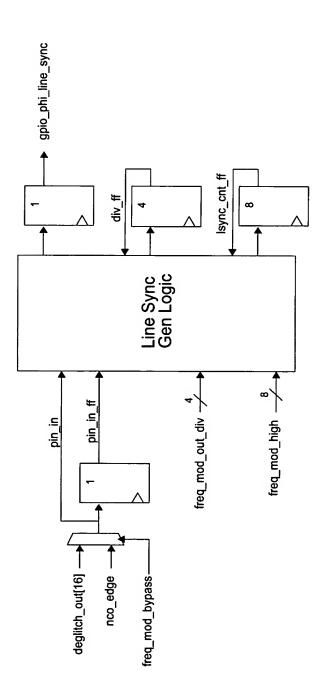


FIG. 58





F1G. 6

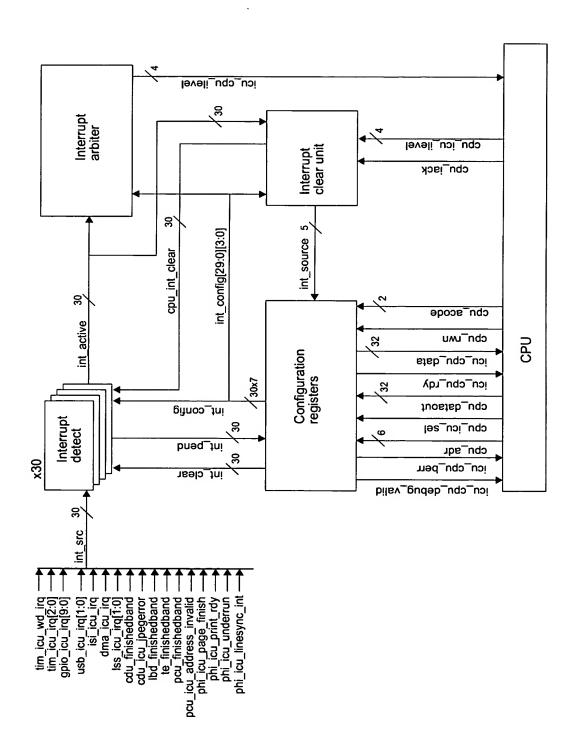
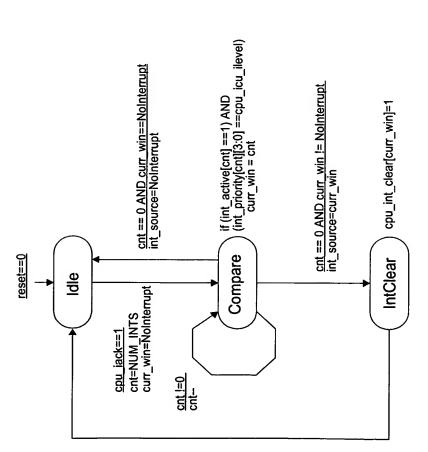


FIG. 62



Machine remains in same state by default All outputs are zero unless otherwise stated

State Description:

Normal Idle state idle:

Compare interrupt level. Determines the interrupt source Compare:

Interrupt clear, clear the pending bit for the current interrupt vector IntClear:

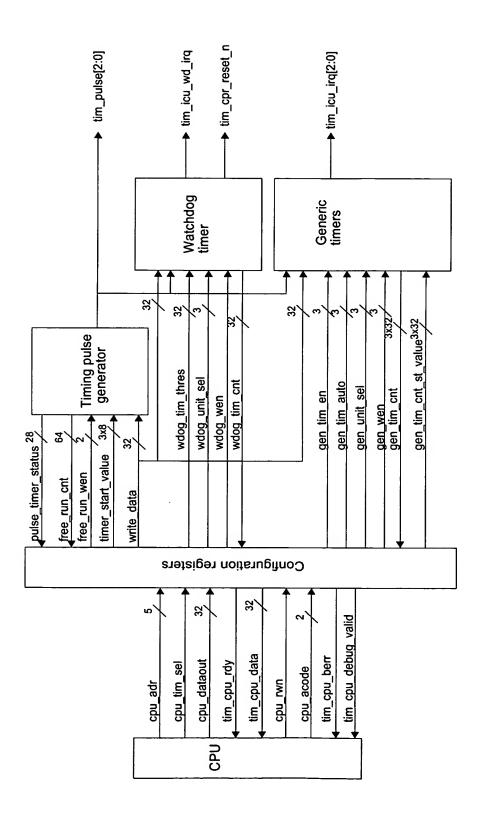
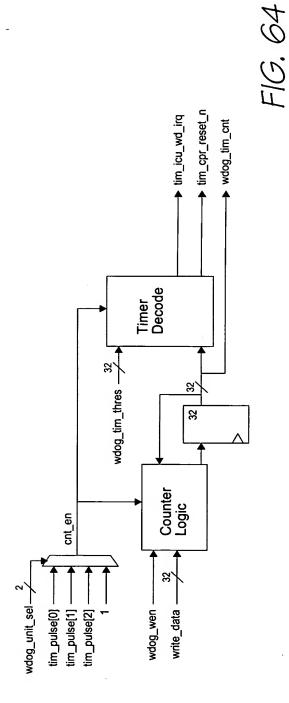
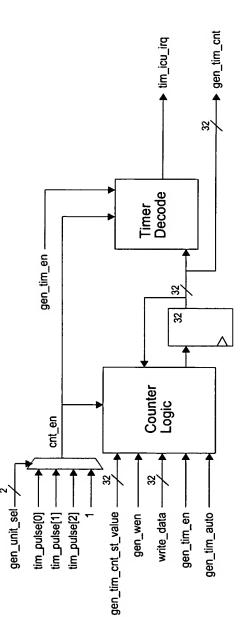


FIG. 63A







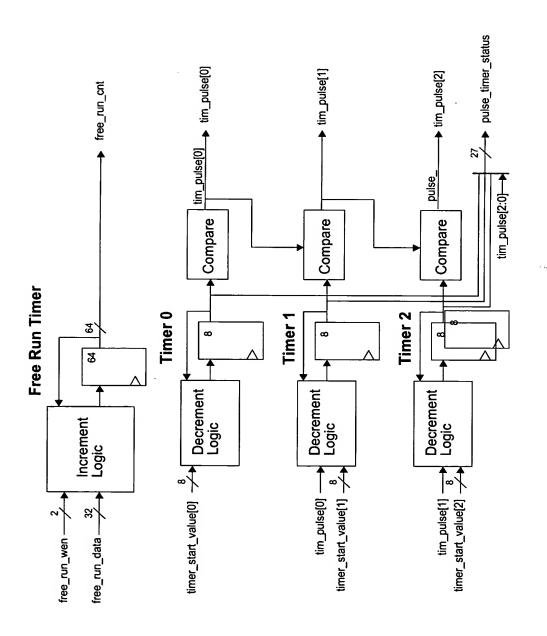


FIG. 66

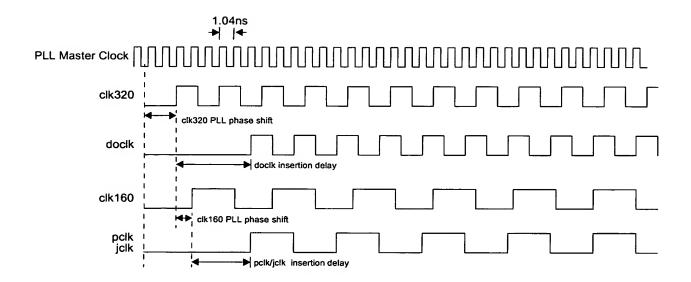


FIG. 67

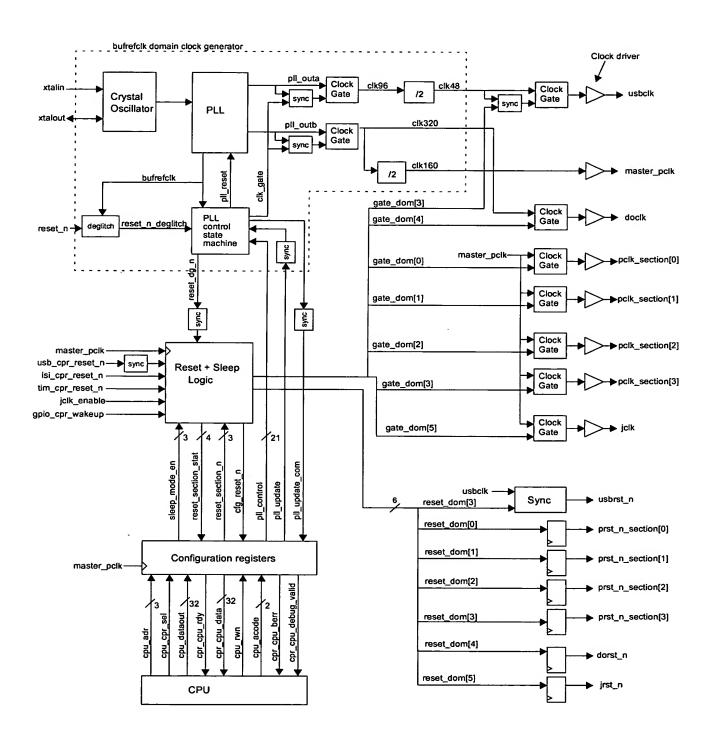
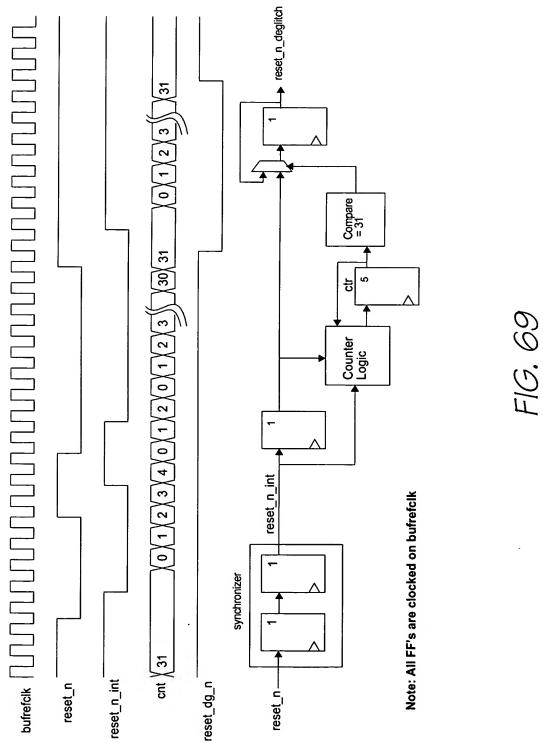
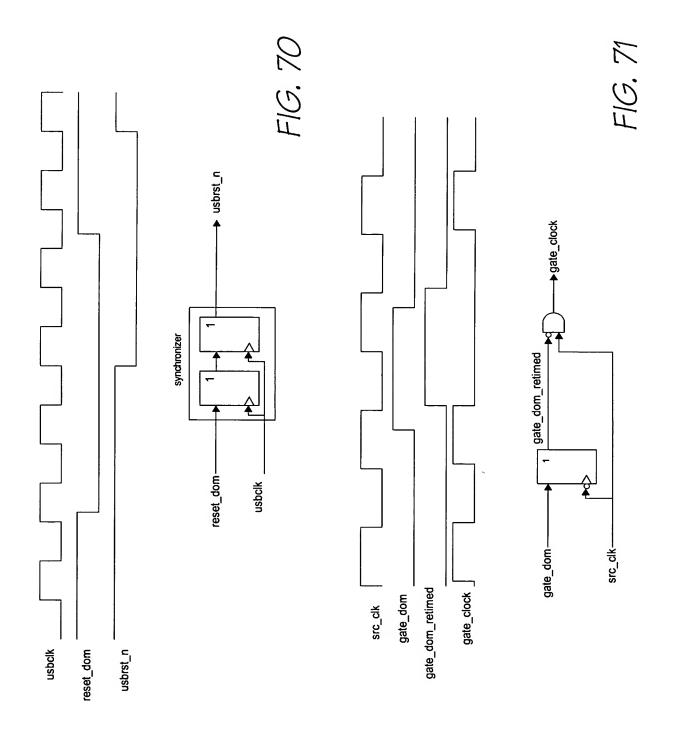
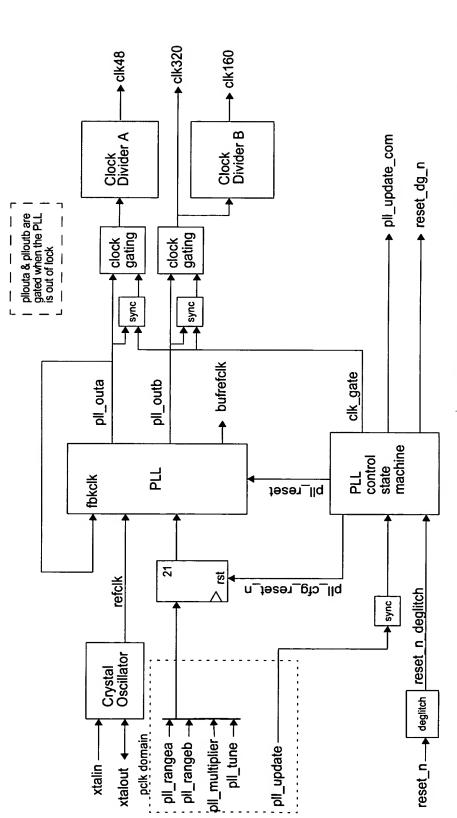


FIG. 68







Note: All logic clocked on bufrefclk unless otherwise indicated

FIG. 1/2

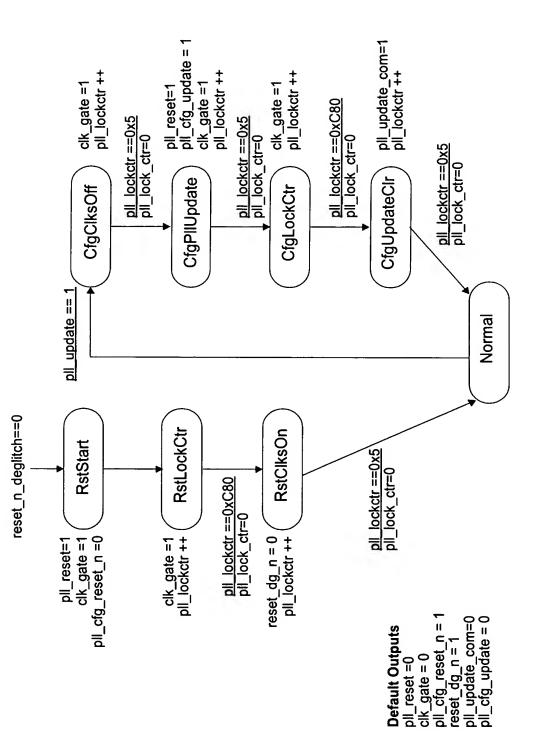
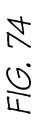
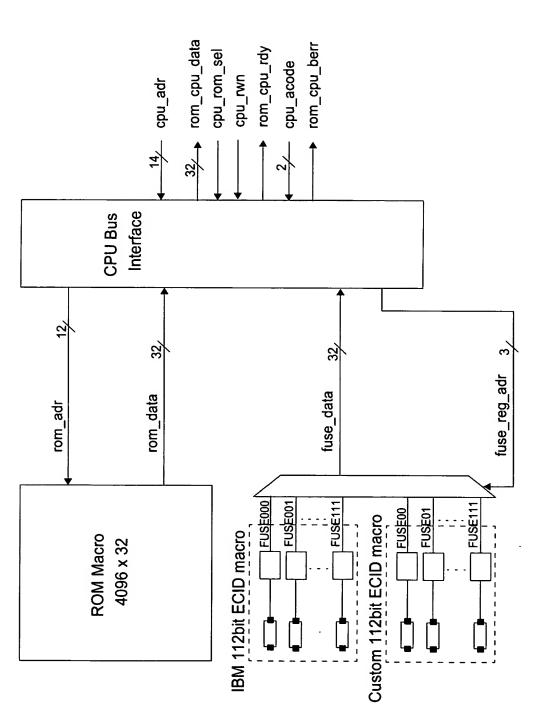


FIG. 73





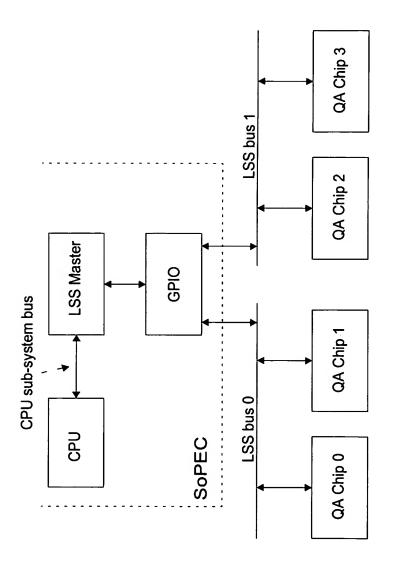
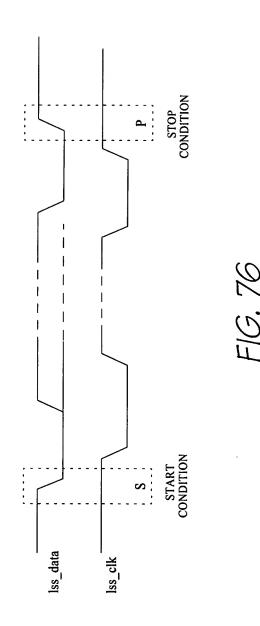


FIG. 75



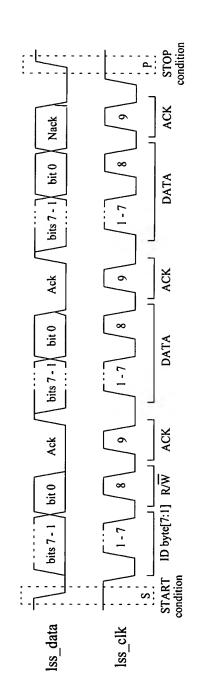


FIG. 77

S = Start condition
A = Ack
N = Nack
P = Stop condition
Shaded bits driven by slave

Byte M

Byte 0

A

ID byte[7:1]

S

S = Start condition
A = Ack
N = Nack
P = Stop condition
Shaded bits driven by slave Д A Data(8) A FIG. 78 ---- Data(8) Α Data(8) A 0 ID byte[7:1]

Byte M

Byte M-1

Byte 0

Д Z Data(8) FIG. 79 ٧ Data(8) ¥ Data(8)

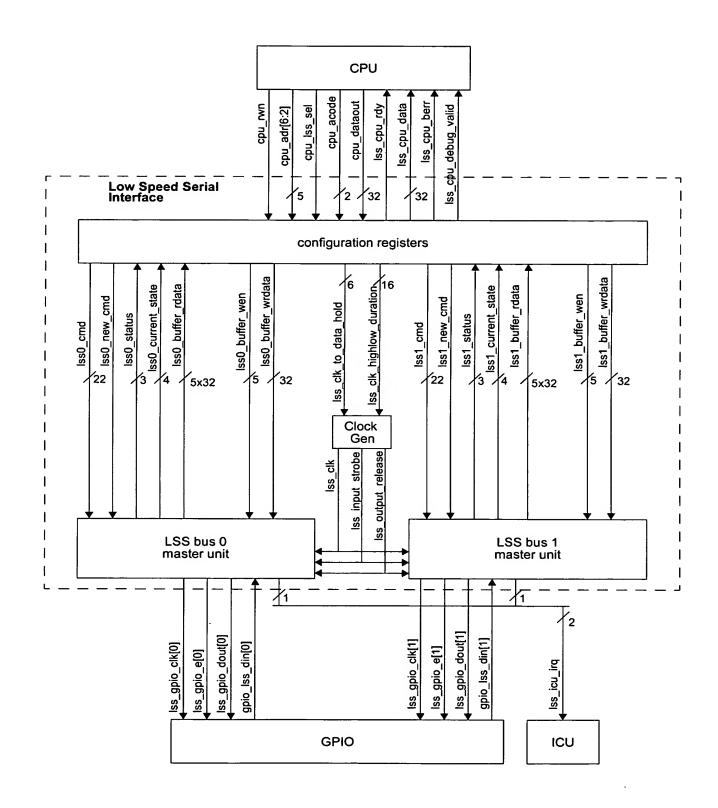


FIG. 80

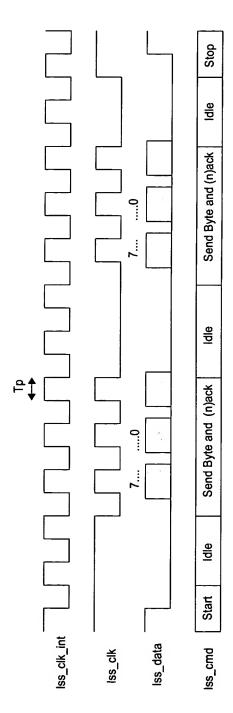


FIG. 81

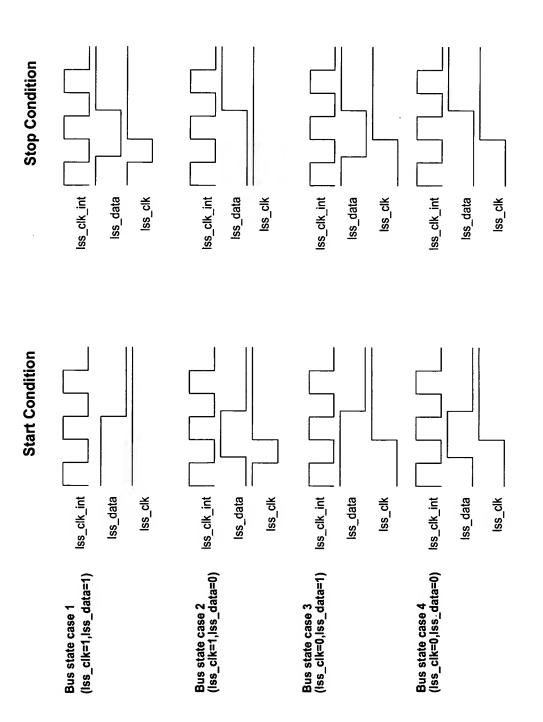


FIG. 82

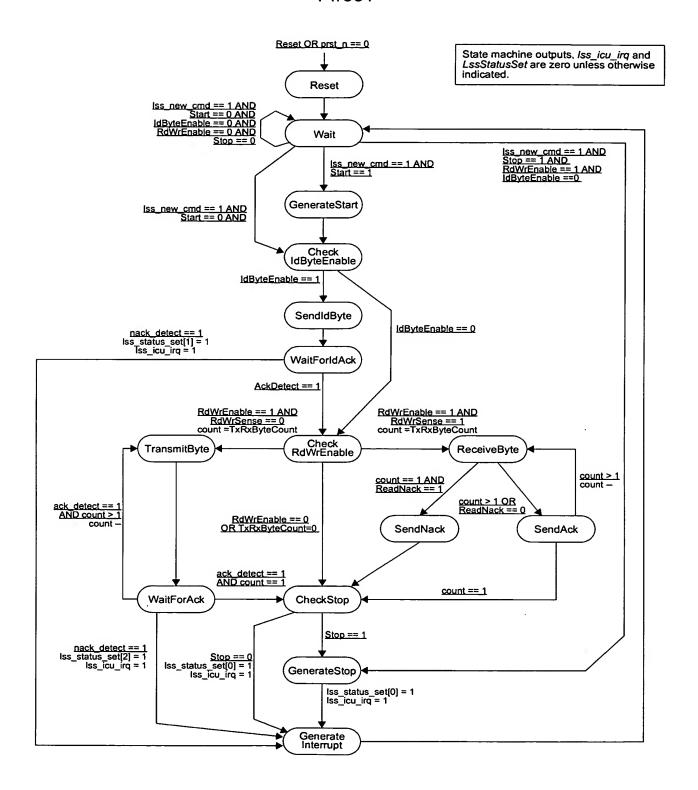


FIG. 83

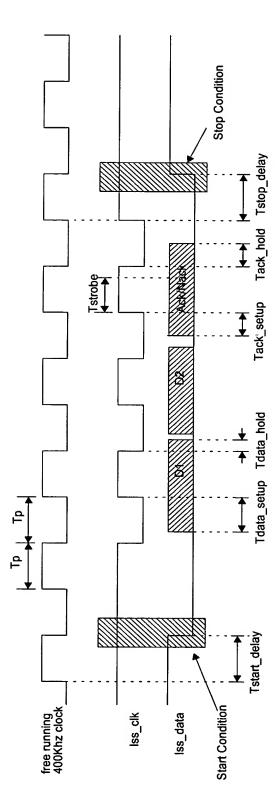


FIG. 84

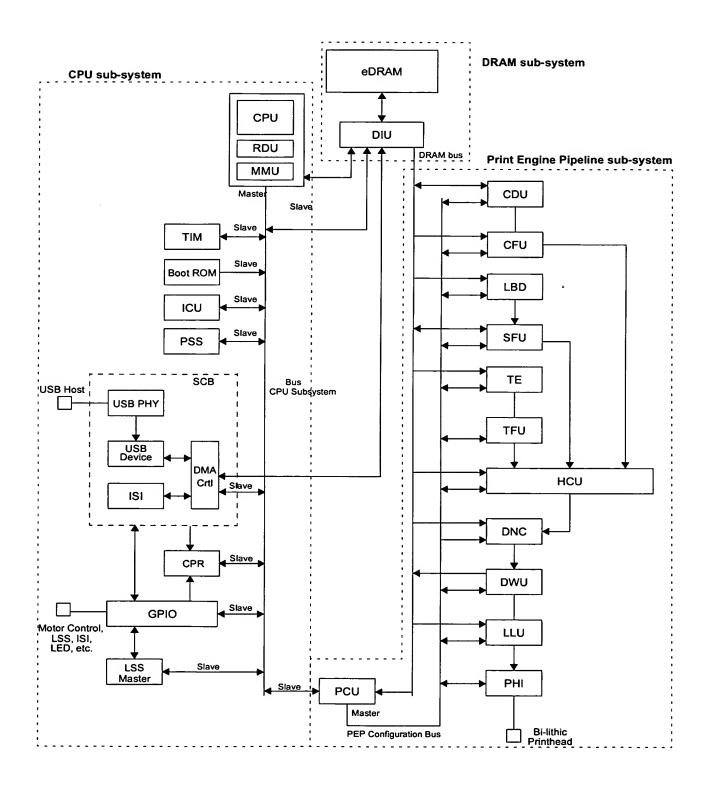


FIG. 85

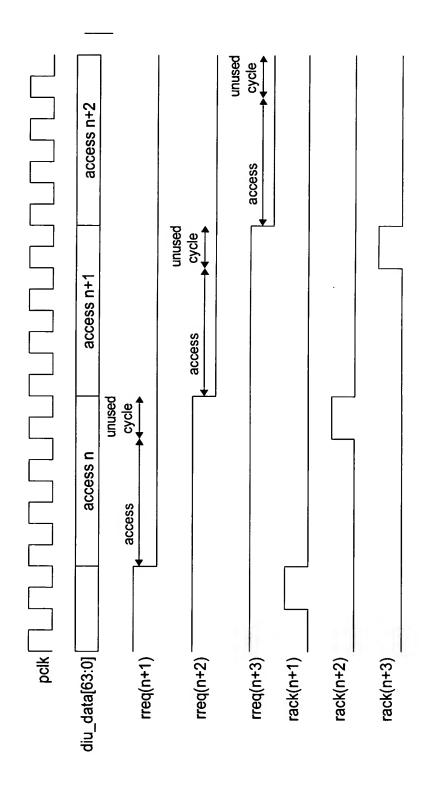


FIG. 86

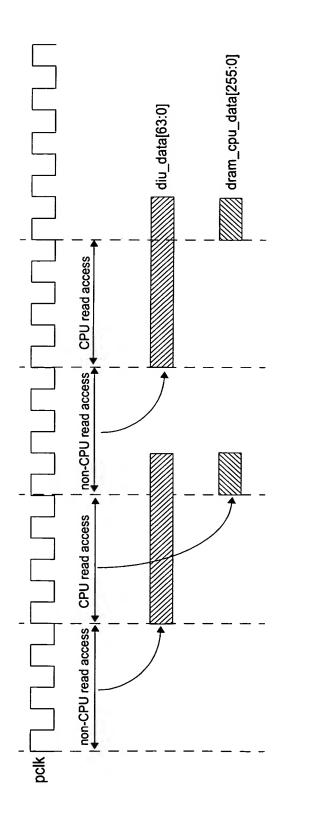


FIG. 87

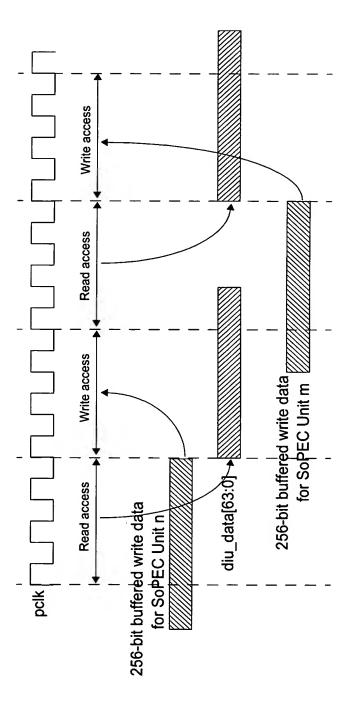


FIG. 88

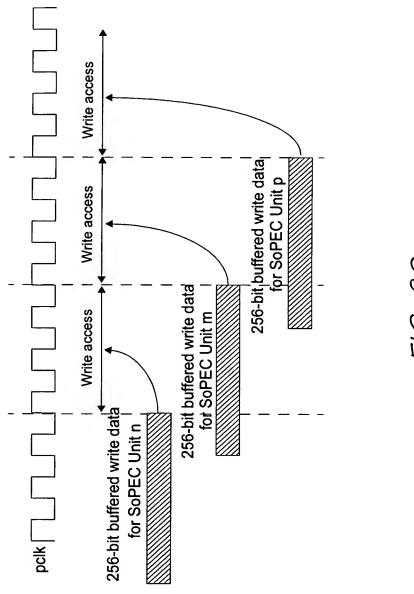


FIG. 89

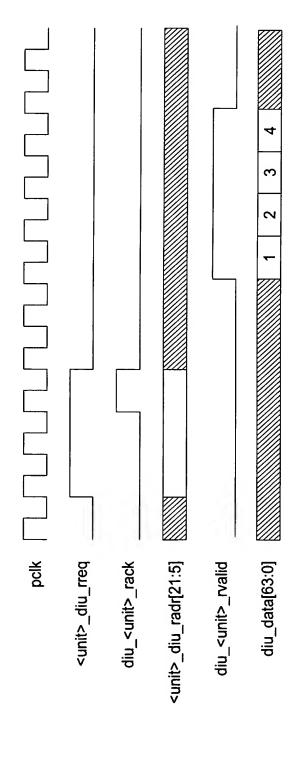


FIG. 90

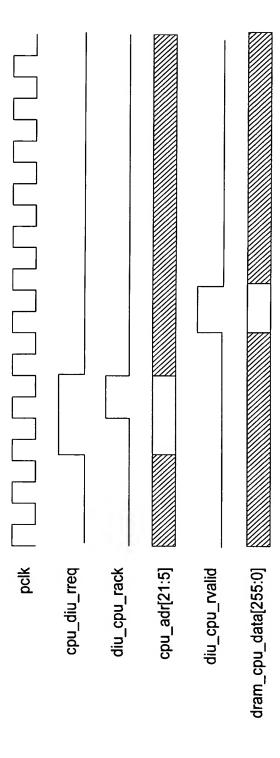


FIG. 91

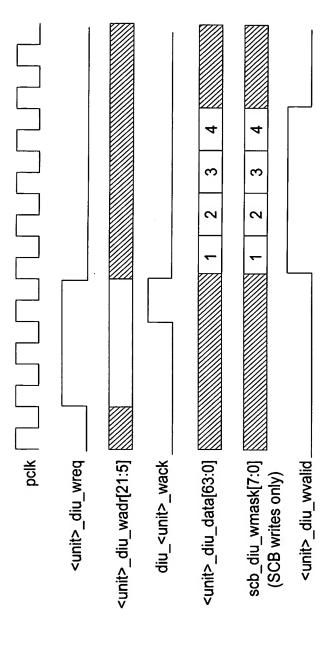


FIG. 92

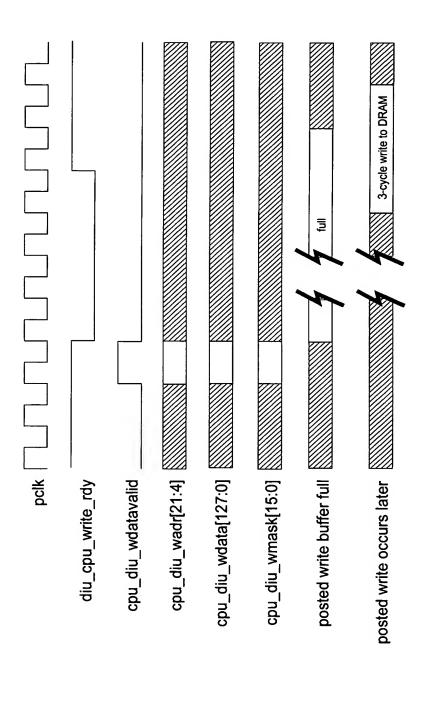


FIG. 93

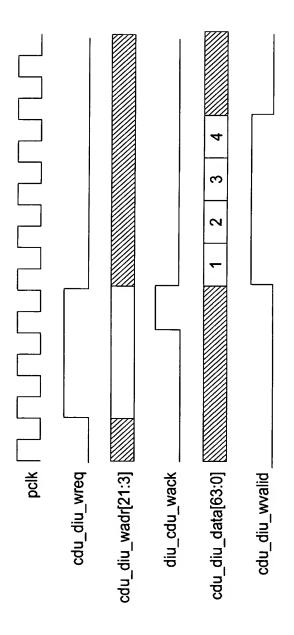


FIG. 94

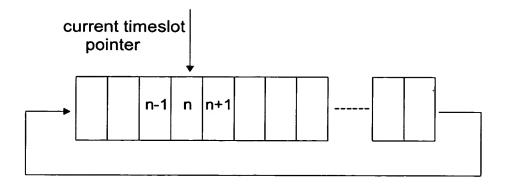


FIG. 95

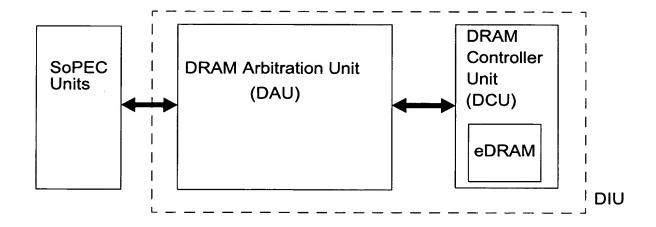


FIG. 100

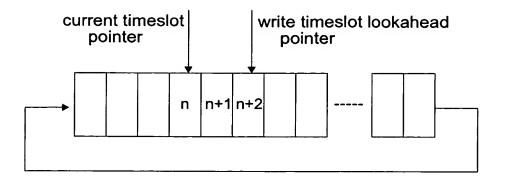


FIG. 96

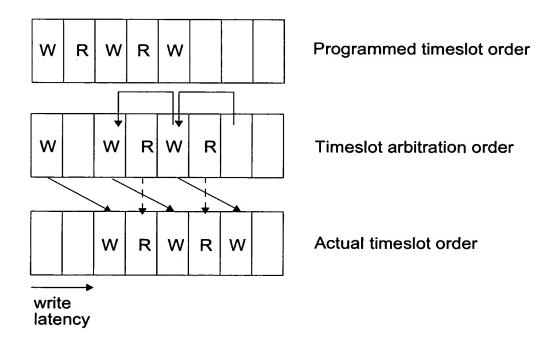


FIG. 97

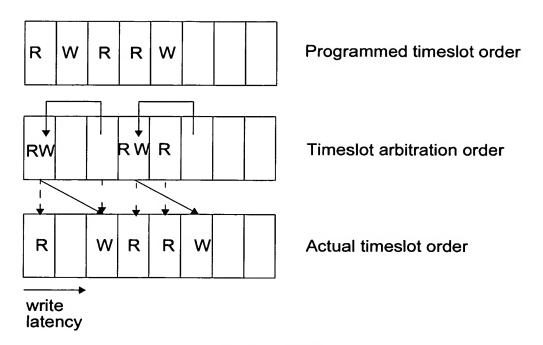


FIG. 98

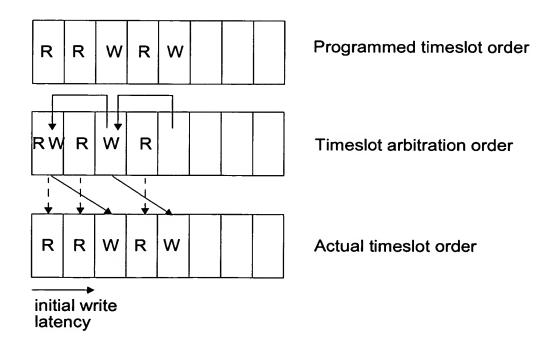


FIG. 99

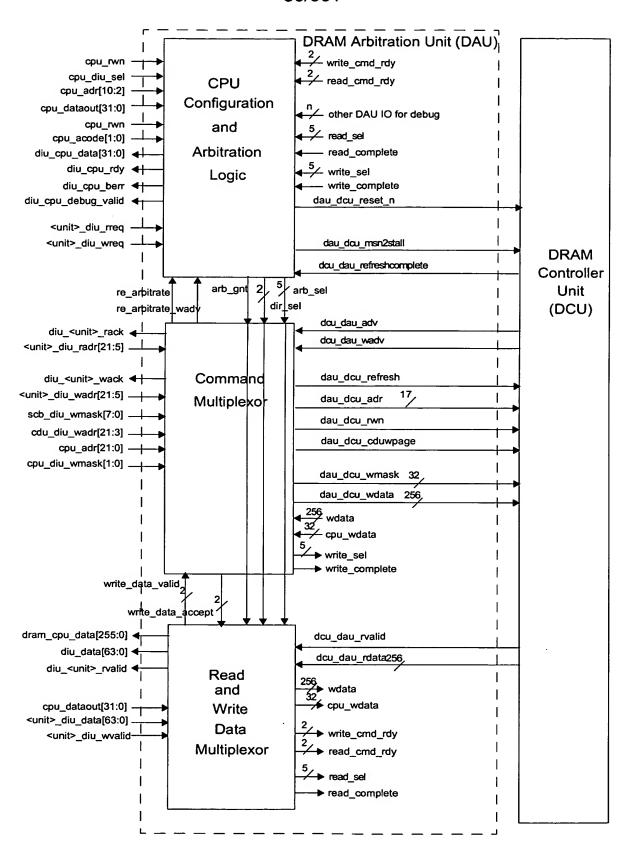


FIG. 101

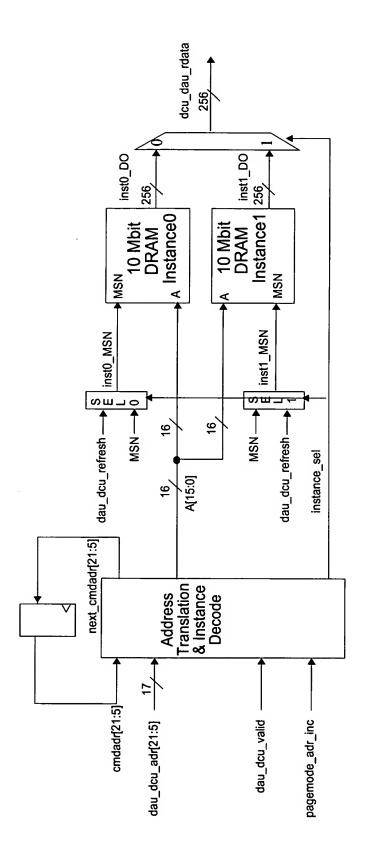


FIG. 102

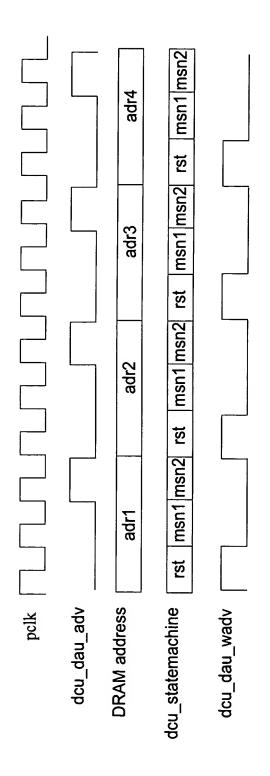


FIG. 103

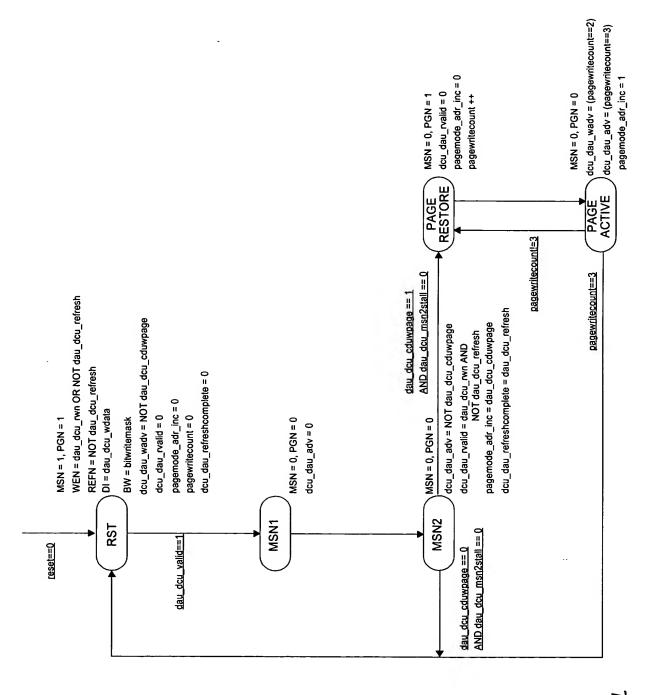


FIG. 104

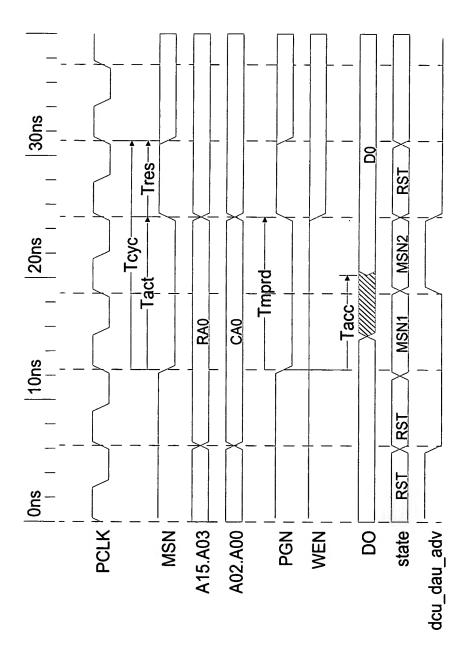


FIG. 105

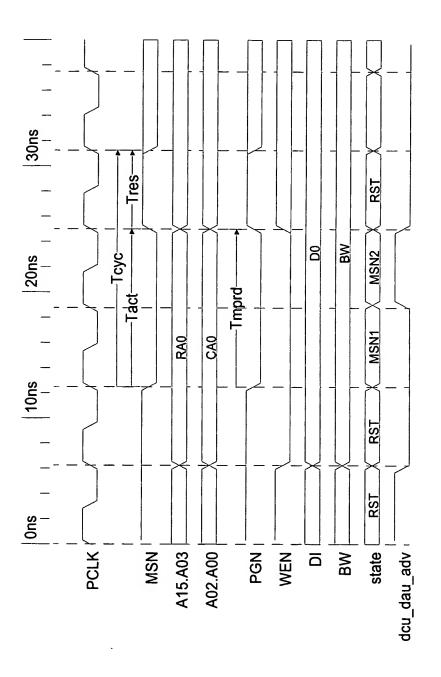


FIG. 106

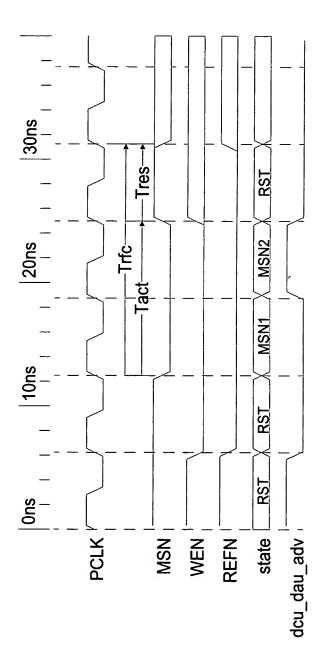


FIG. 107

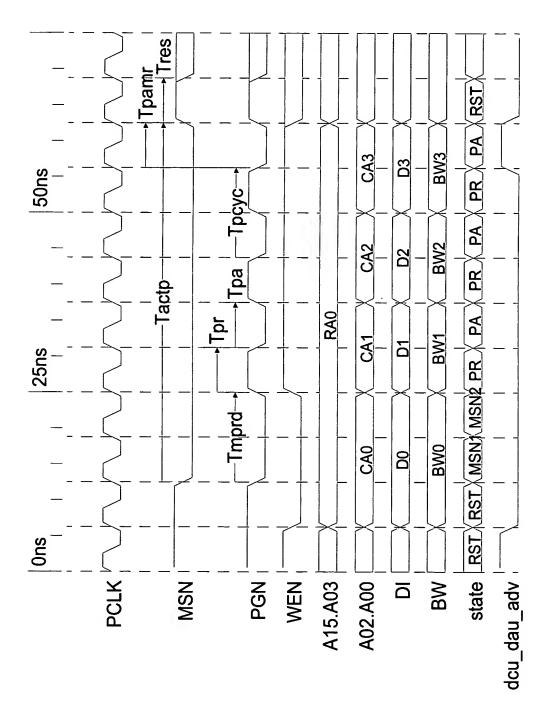


FIG. 108

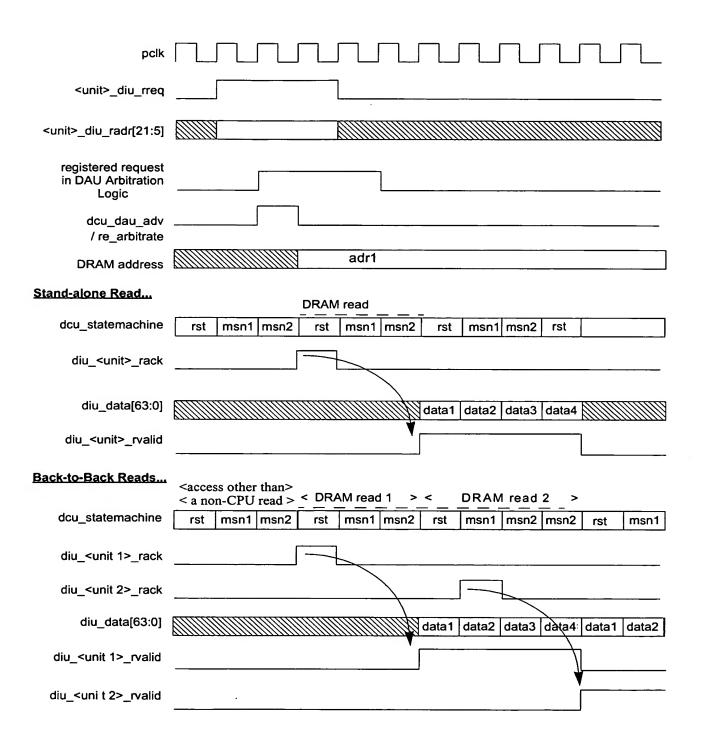


FIG. 109

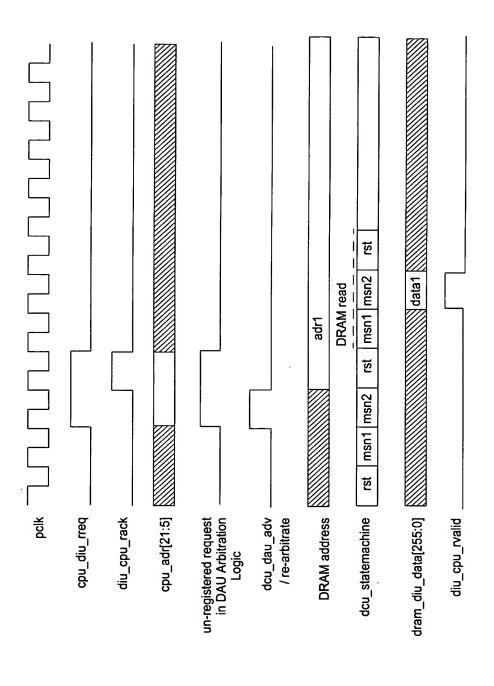
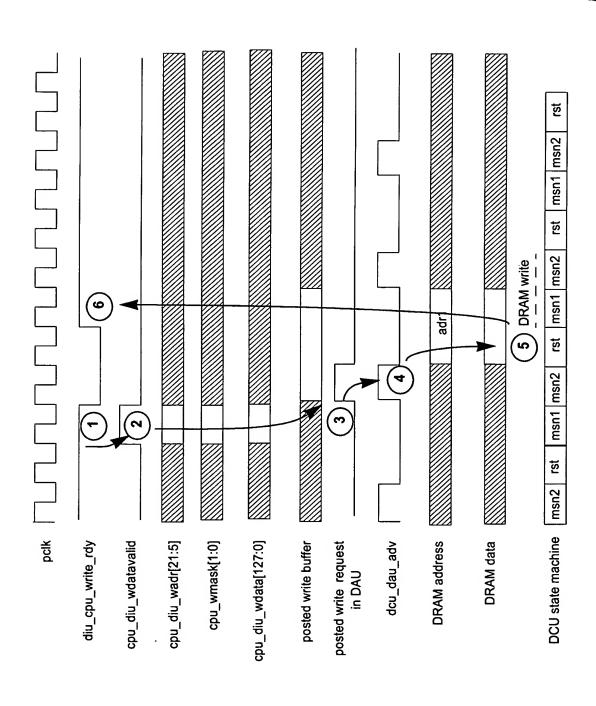
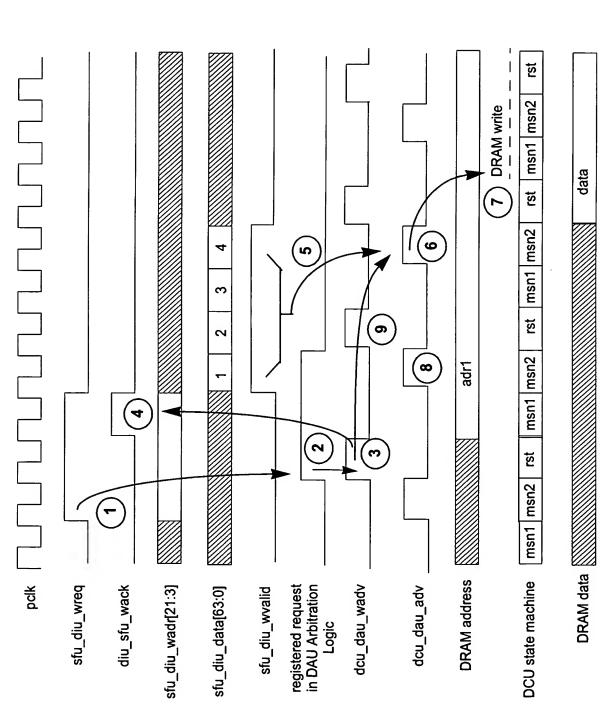


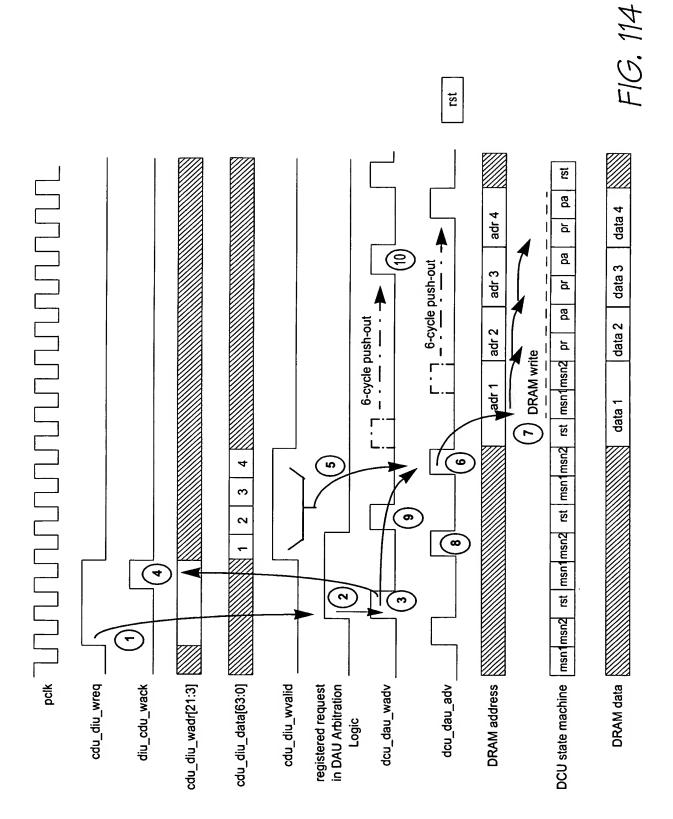
FIG. 110

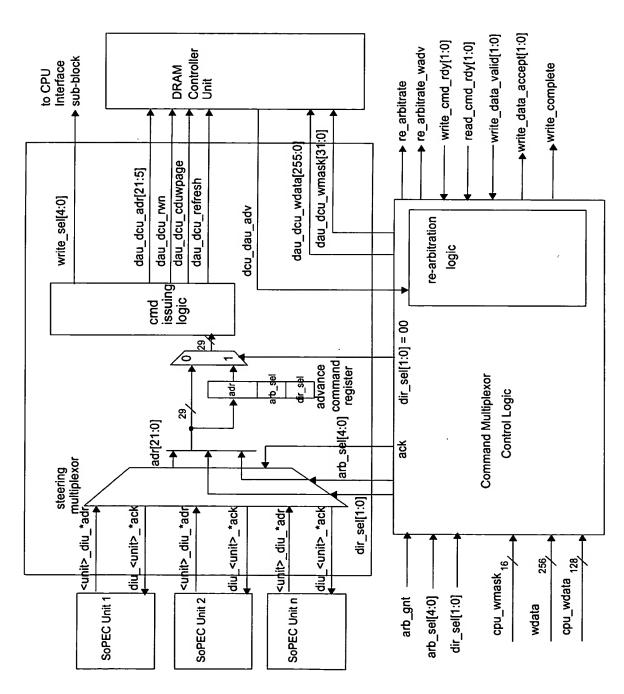
CPU MMU logic delay CPU generates request Arbitration occurs	cycle 6
CPU captures read data in AHB bridge	cycle 5
DRAM access (MSN2)	cycle 4
DRAM access (MSN1)	cycle 3
DCU Address setup cycle (RST)	cycle 2
CPU MMU logic delay CPU generates request Arbitration occurs	cycle 1

FIG. 11









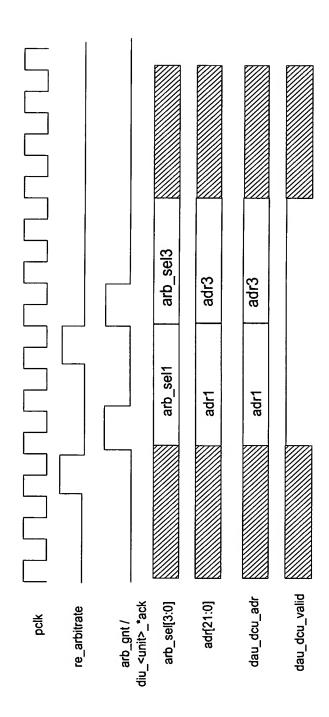


FIG. 116

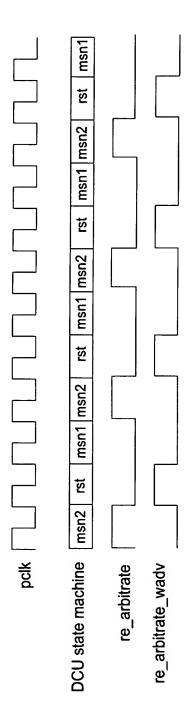


FIG. 117

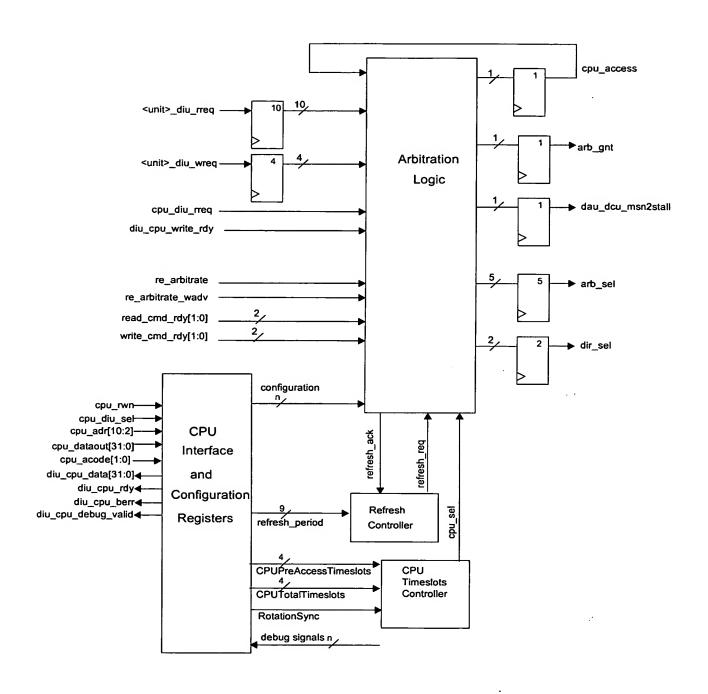


FIG. 118

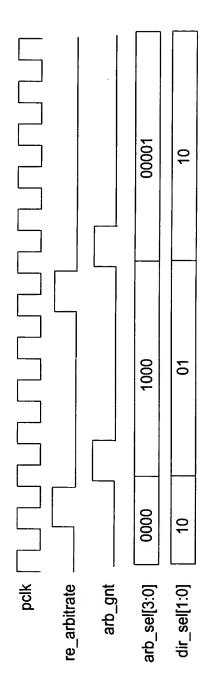


FIG. 119

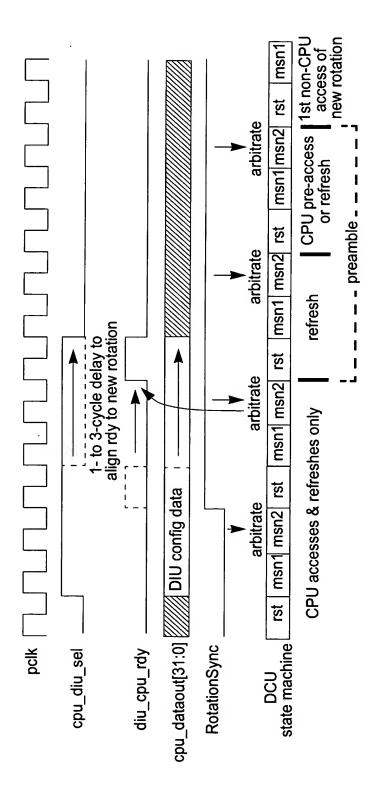


FIG. 120

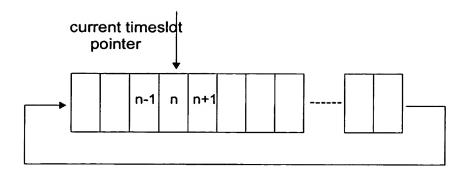


FIG. 121

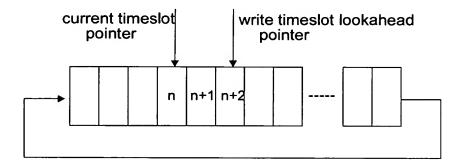


FIG. 122

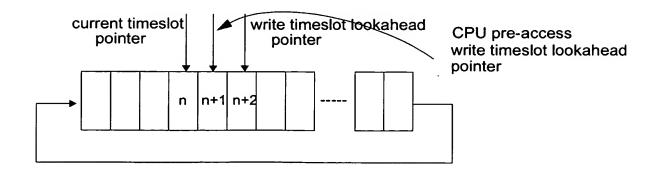


FIG. 123

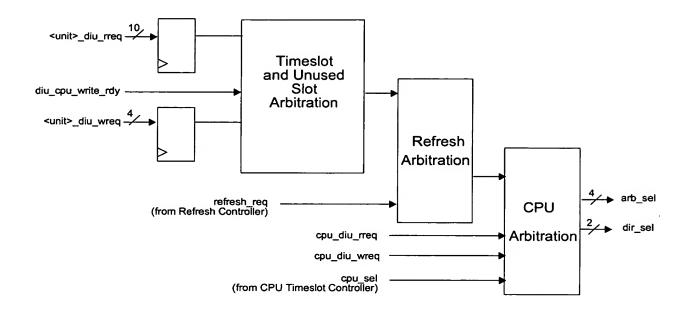


FIG. 124

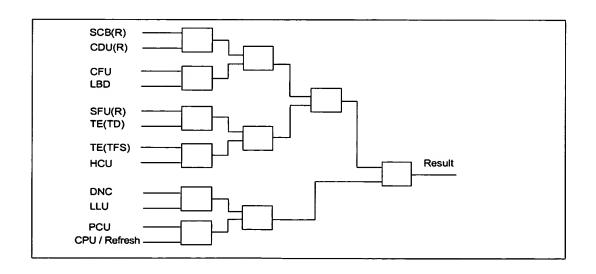
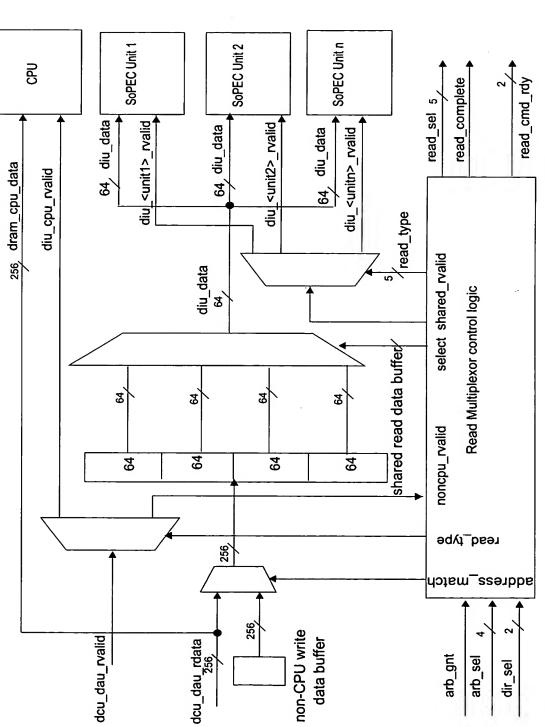


FIG. 125





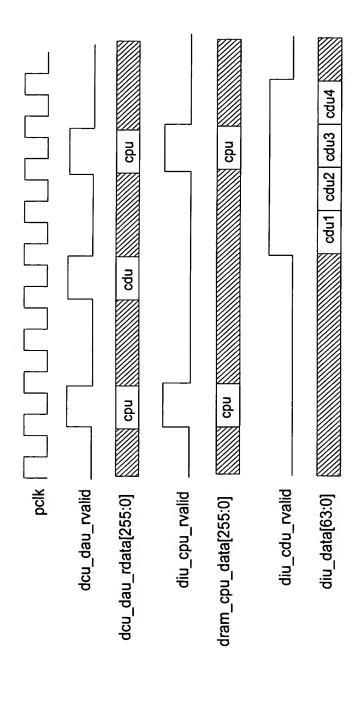


FIG. 127

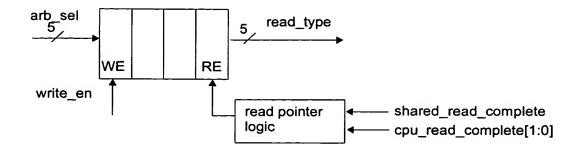


FIG. 128

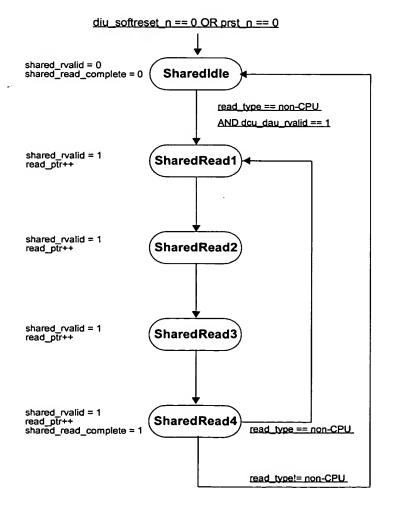


FIG. 129

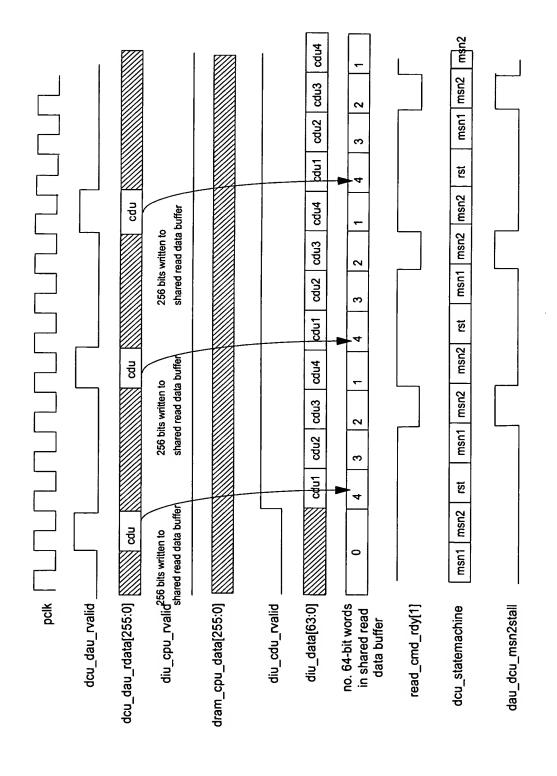


FIG. 130

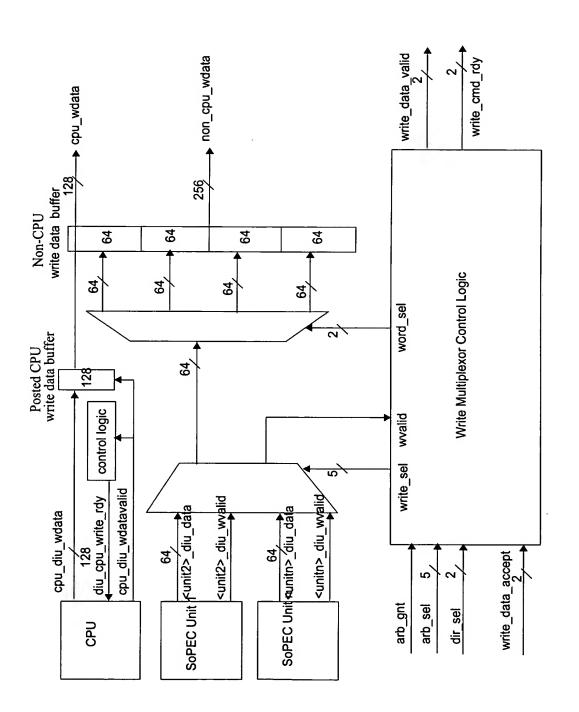


FIG. 131

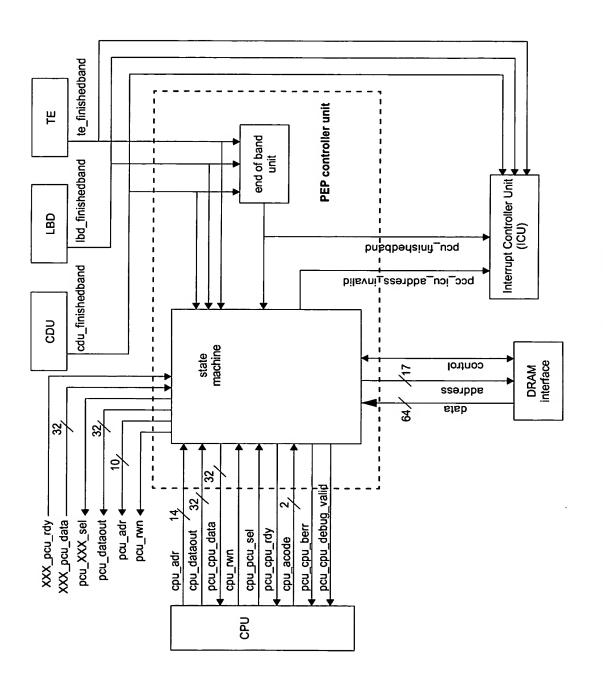


FIG. 132

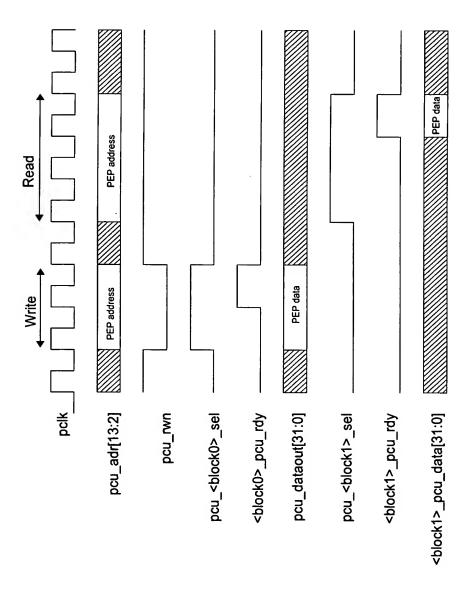


FIG. 133

State Machine A

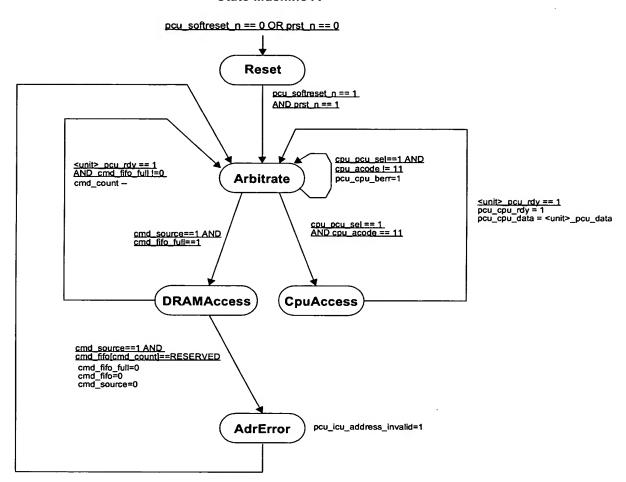


FIG. 134

State Machine B

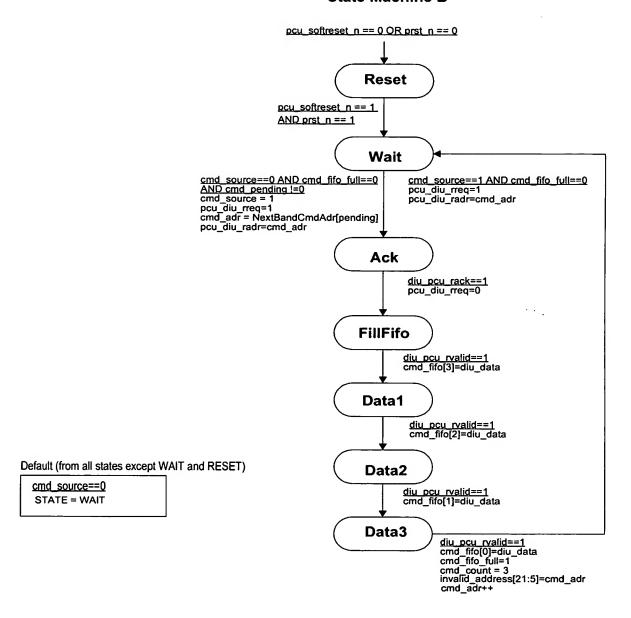


FIG. 135

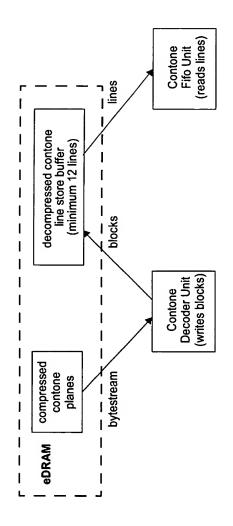


FIG. 136

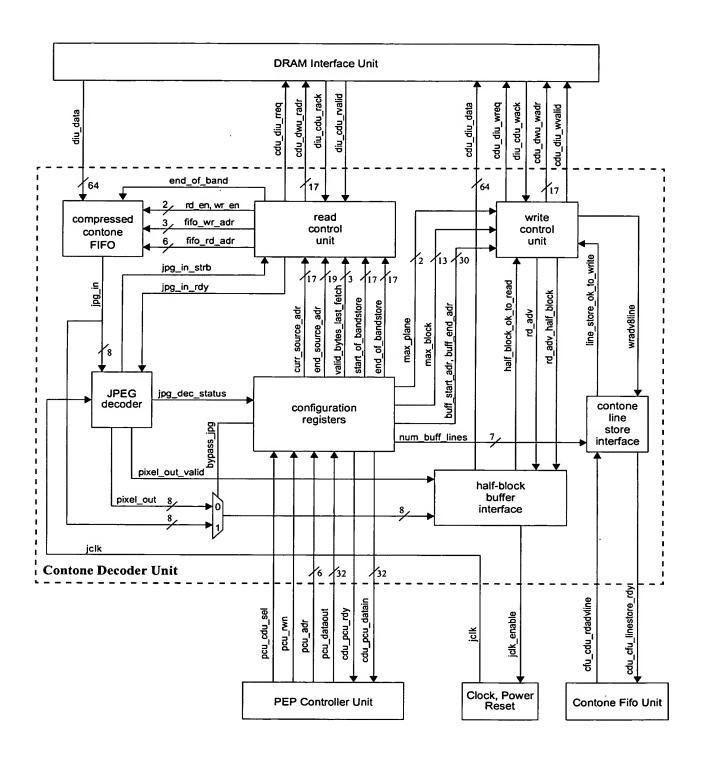


FIG. 137

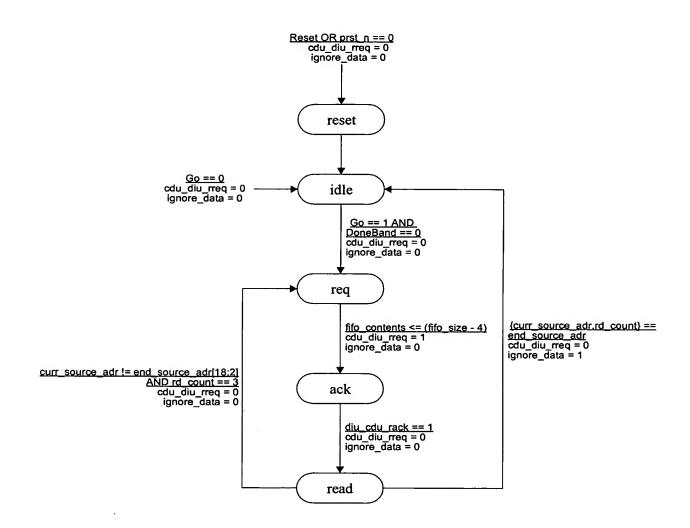


FIG. 138

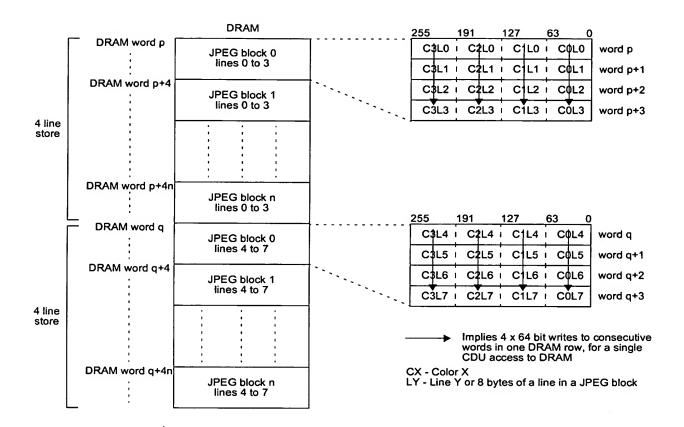
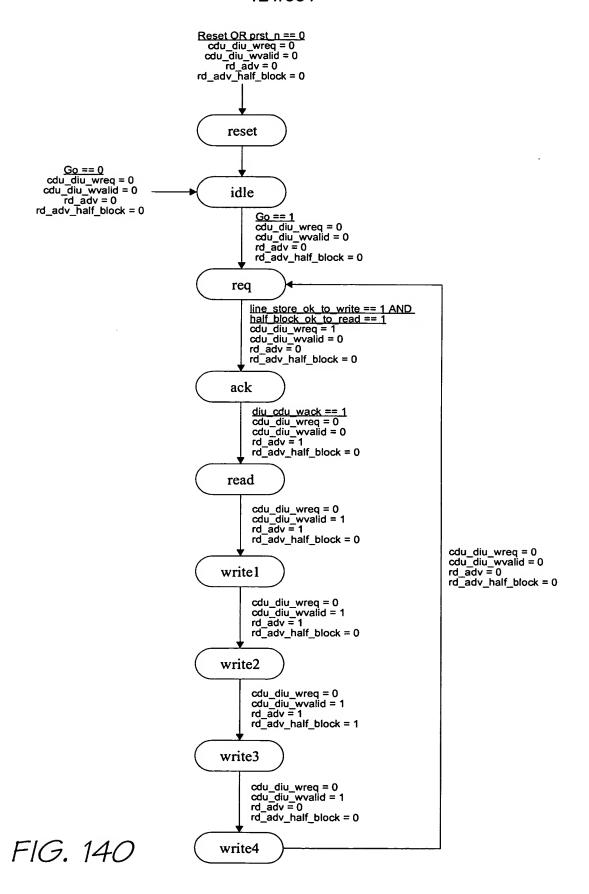


FIG. 139

121/331



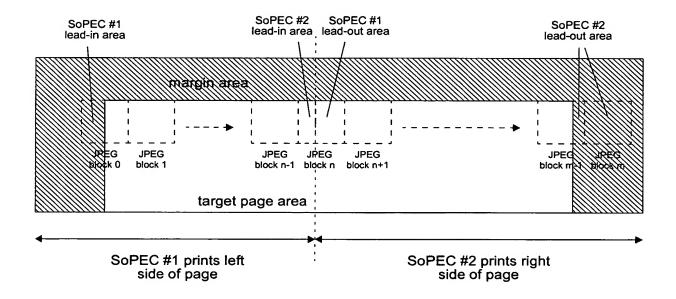


FIG. 141

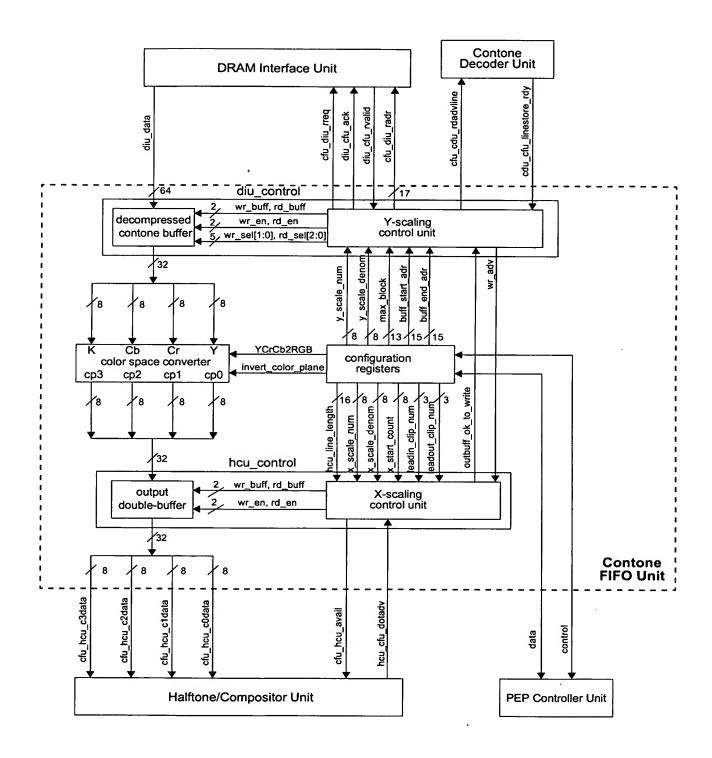


FIG. 142

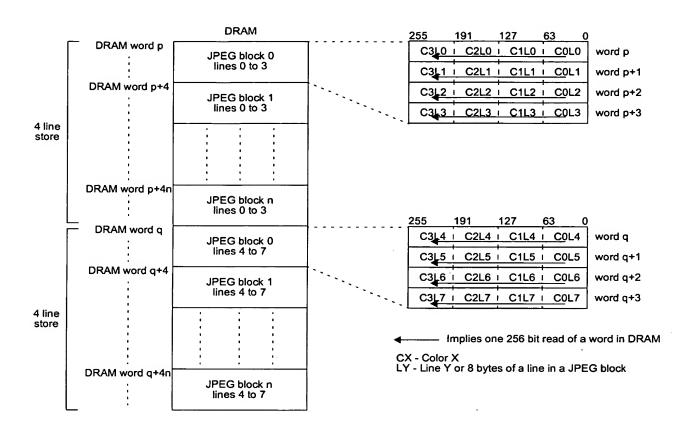


FIG. 143

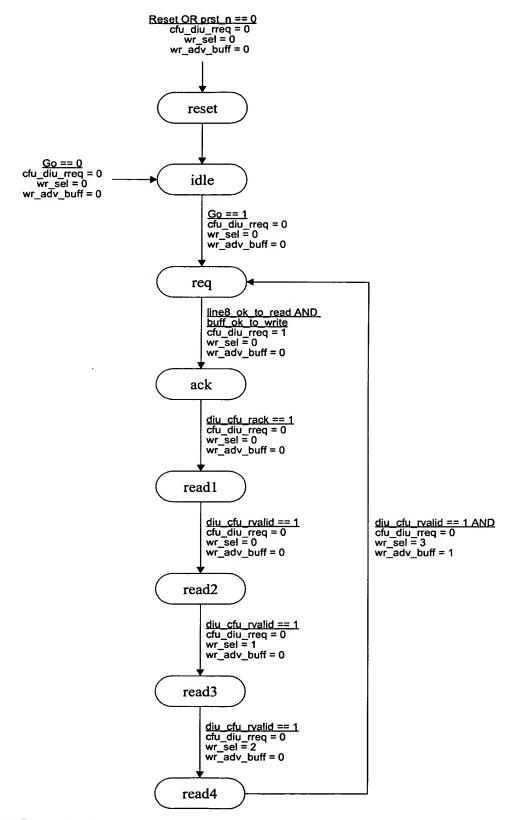


FIG. 144

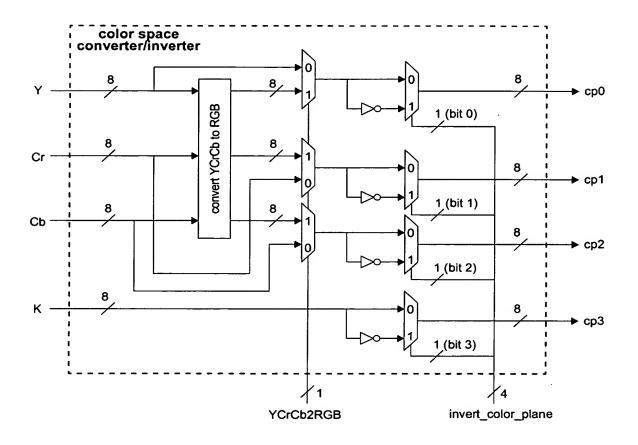


FIG. 145

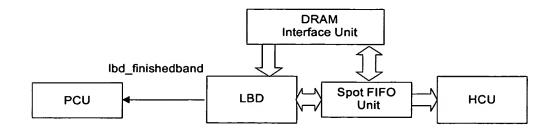


FIG. 146

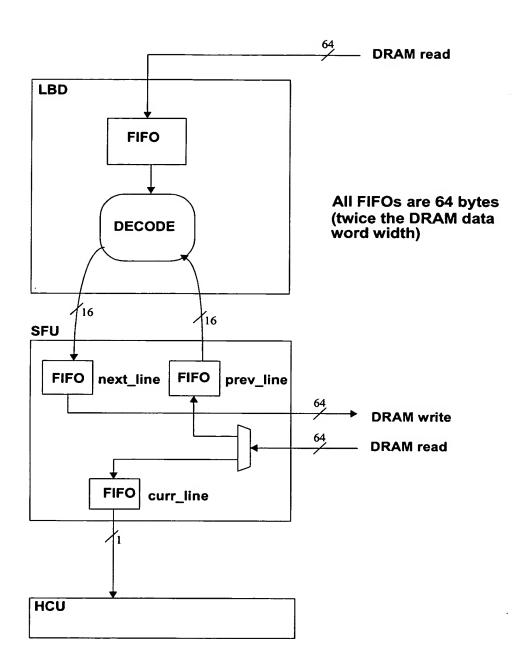


FIG. 147

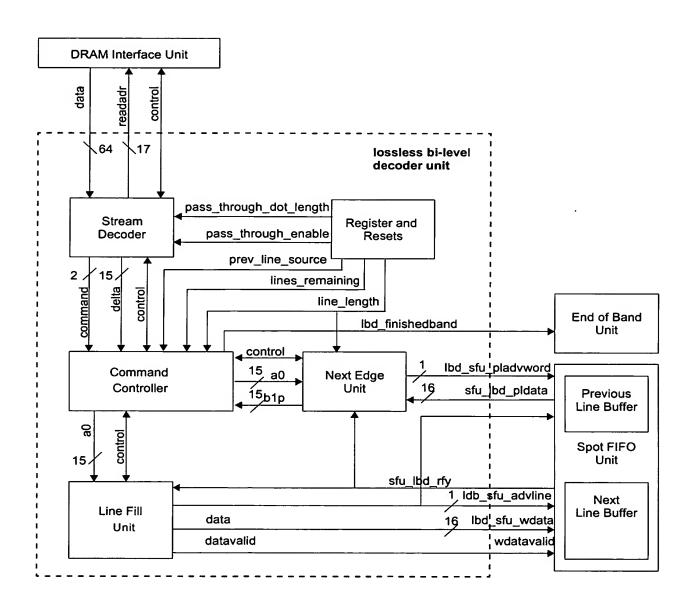


FIG. 148

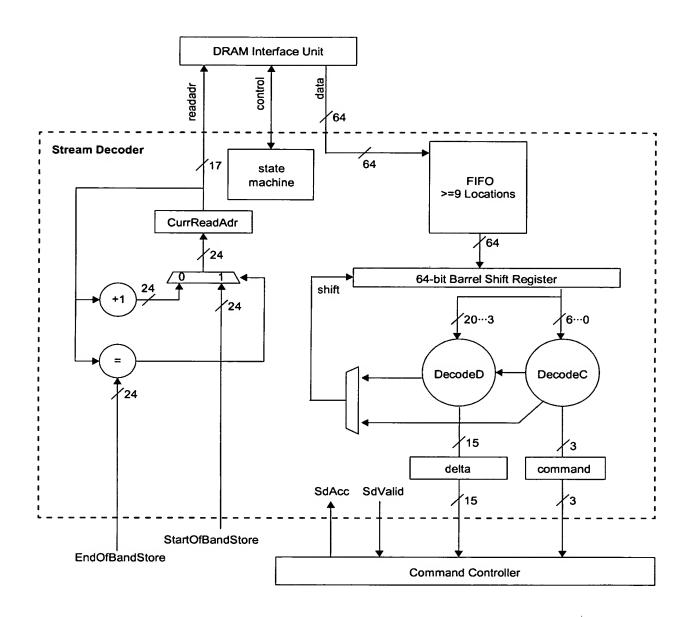


FIG. 149

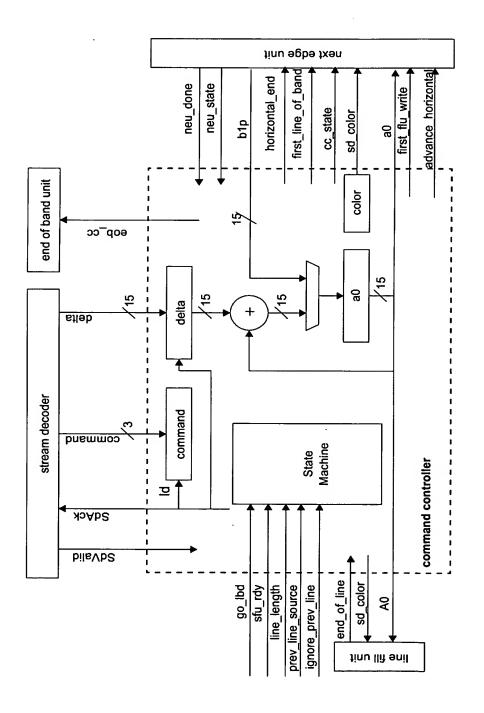


FIG. 150

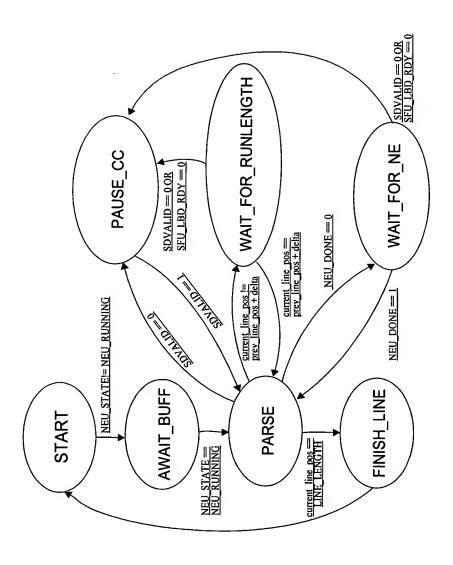


FIG. 151

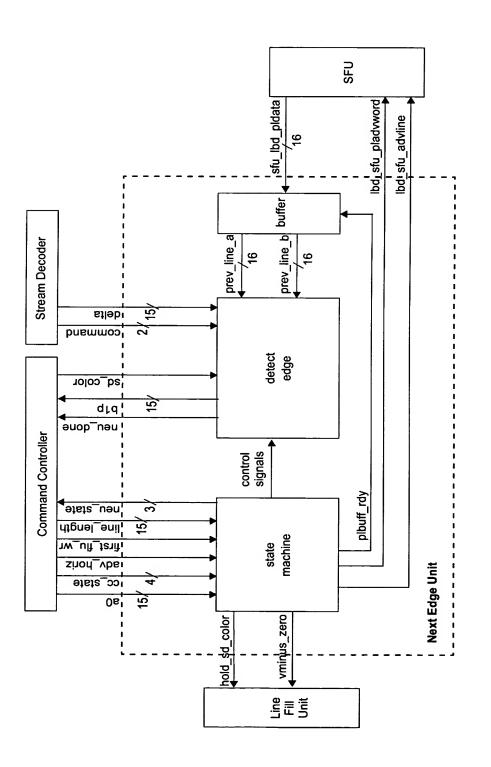


FIG. 152

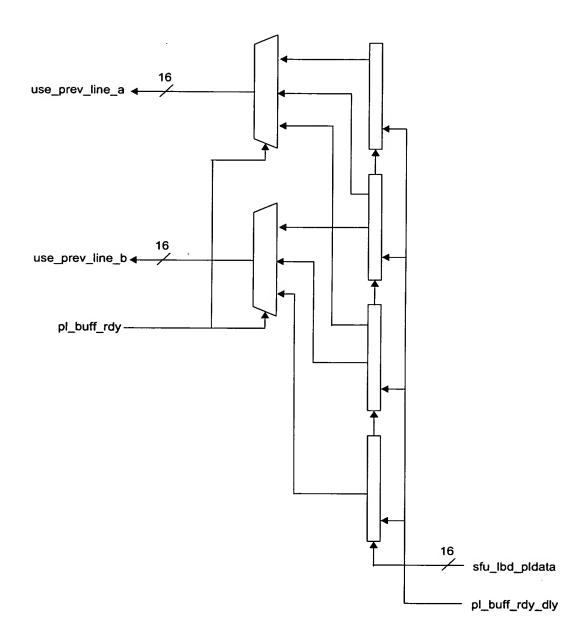


FIG. 153

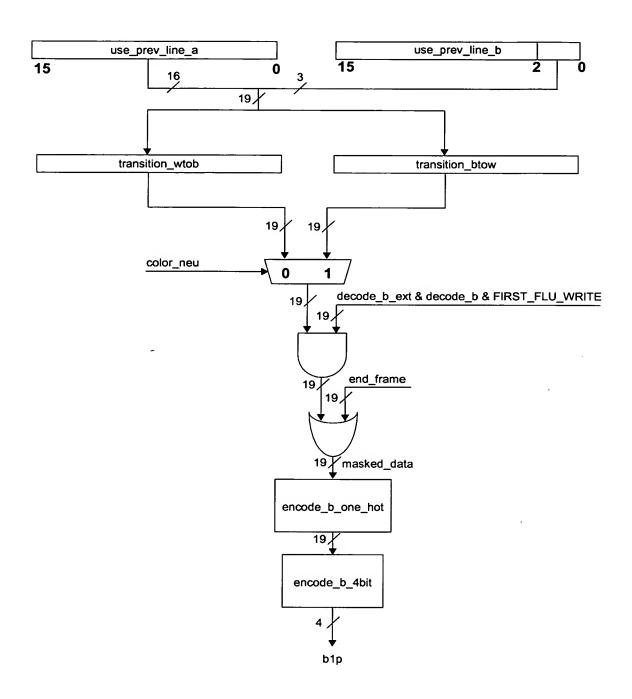


FIG. 154

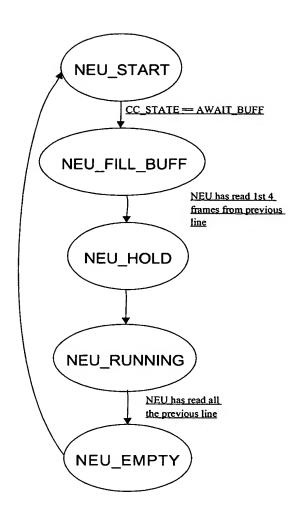


FIG. 155

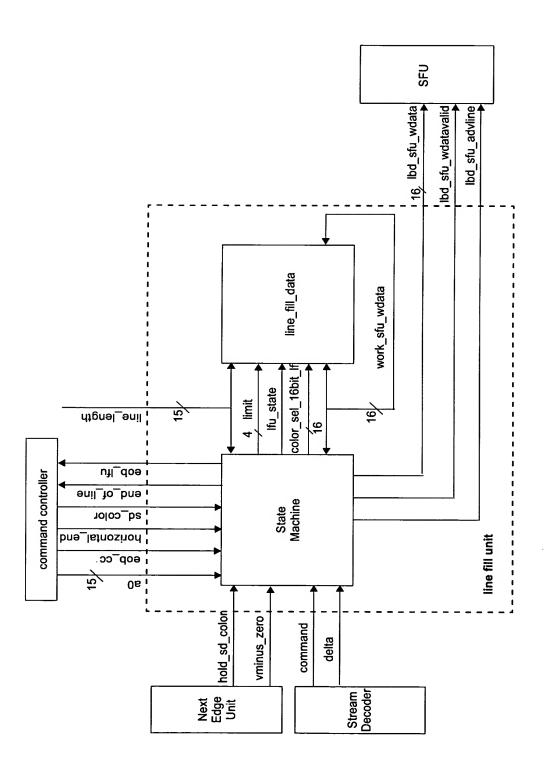


FIG. 150

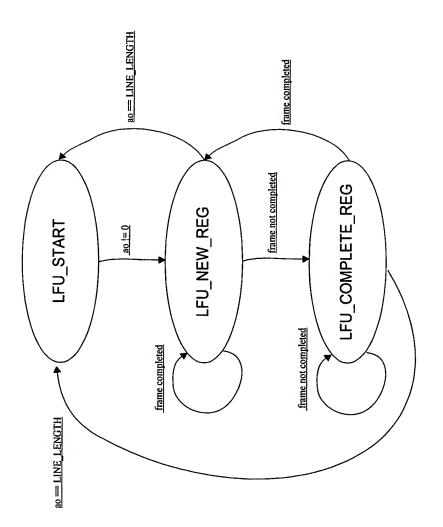


FIG. 157

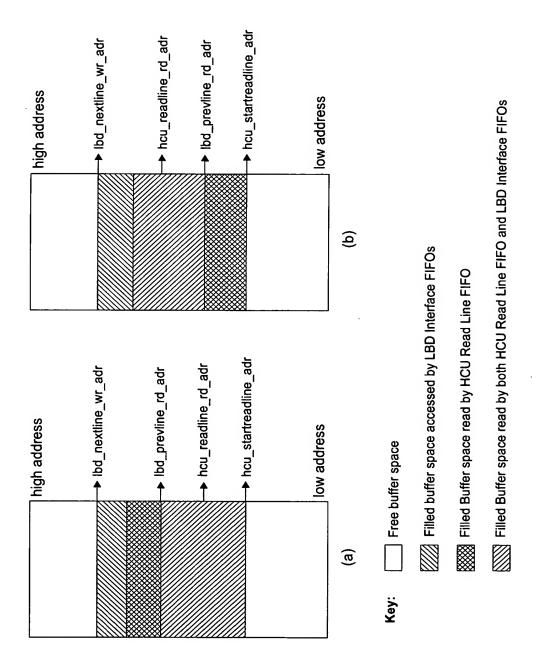


FIG. 158

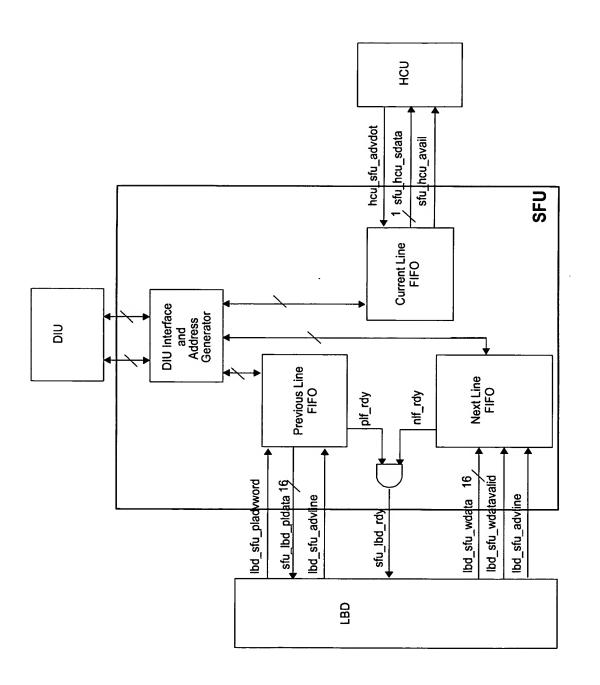


FIG. 159

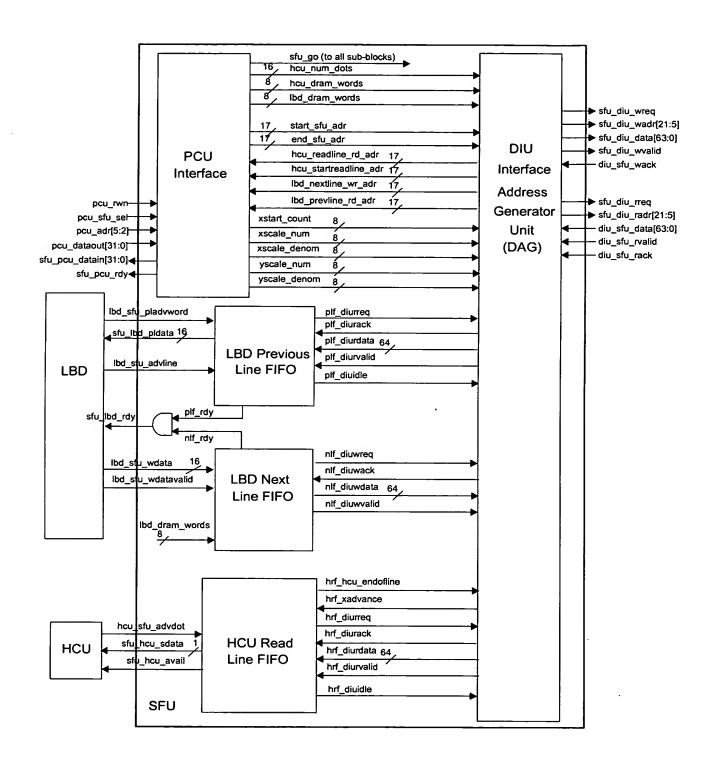


FIG. 160

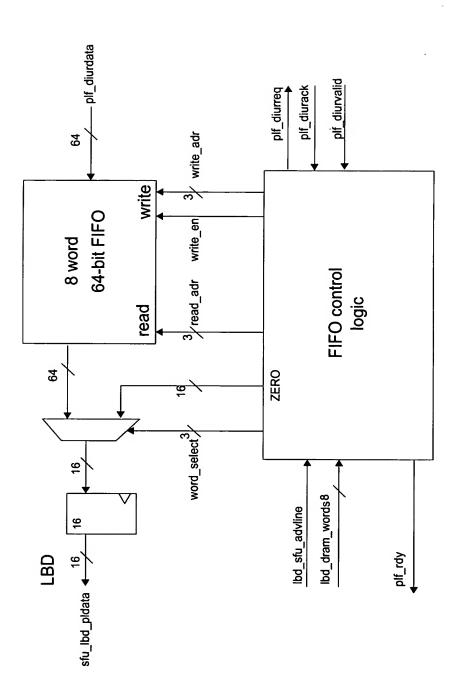


FIG. 161

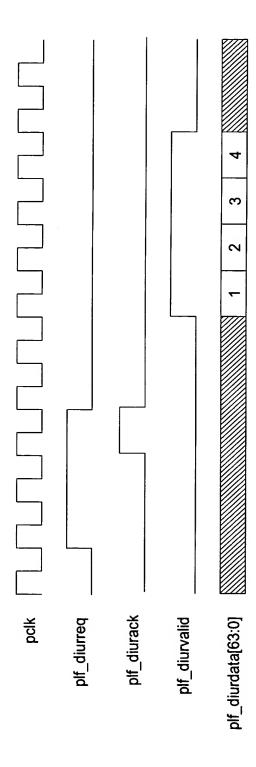


FIG. 162

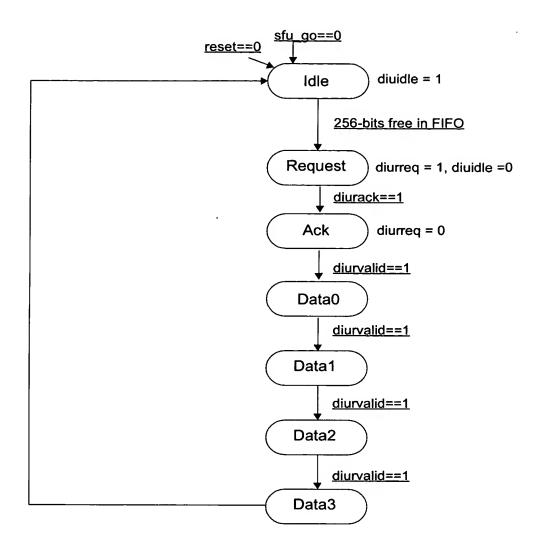


FIG. 163

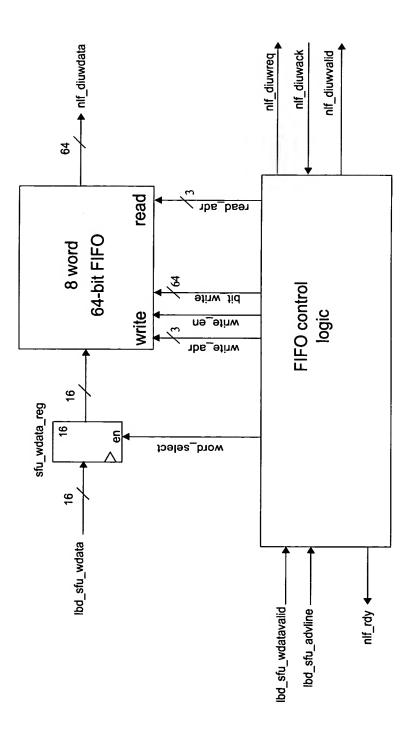
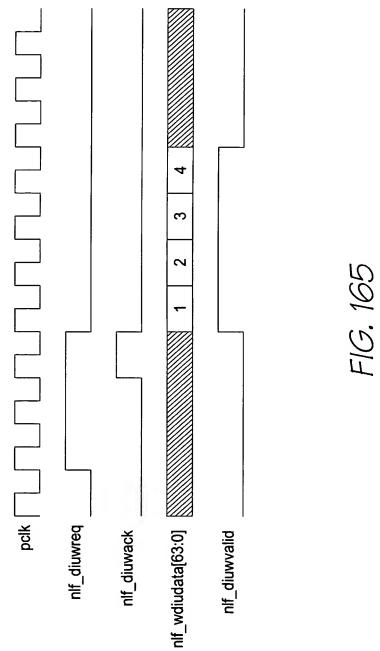


FIG. 164



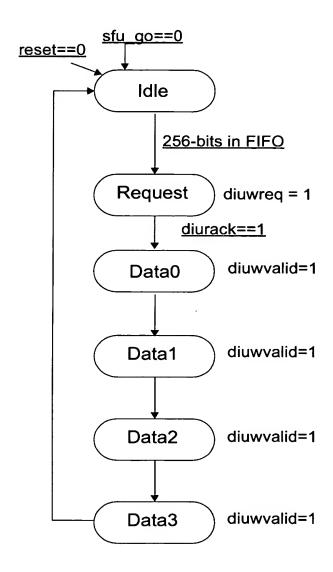


FIG. 166

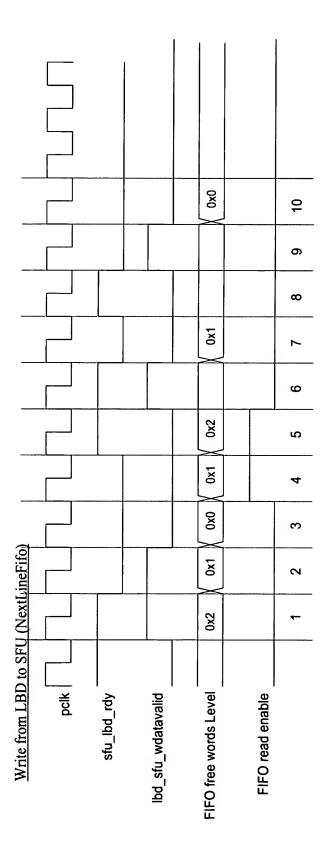


FIG. 167

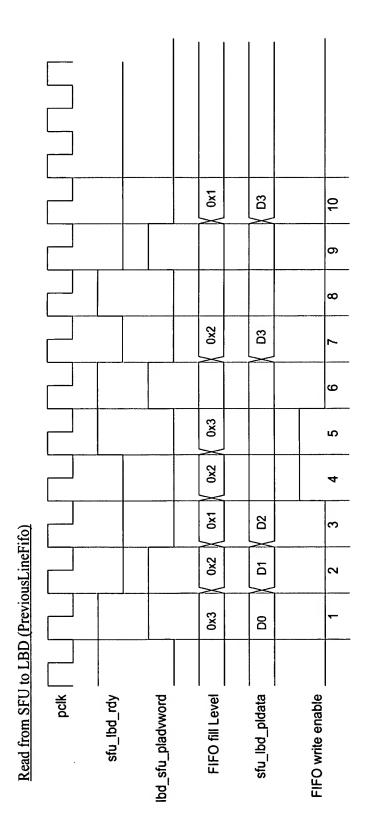


FIG. 168

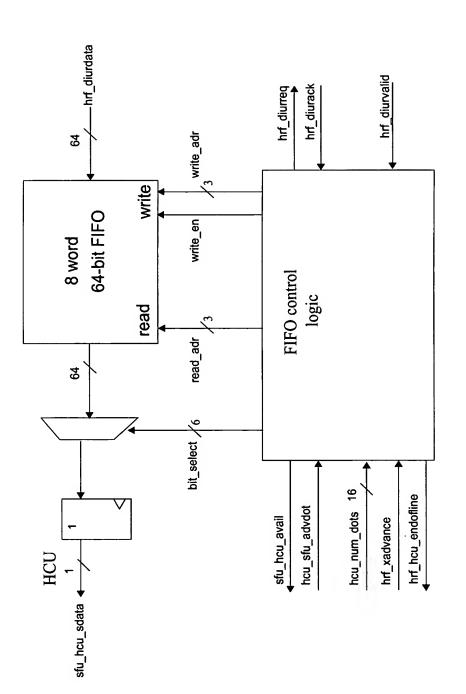


FIG. 169

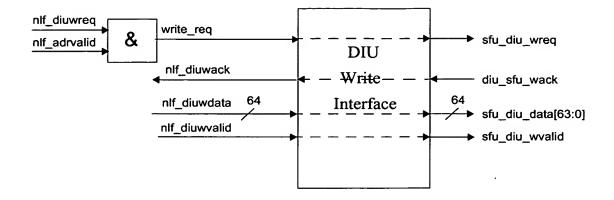


FIG. 170

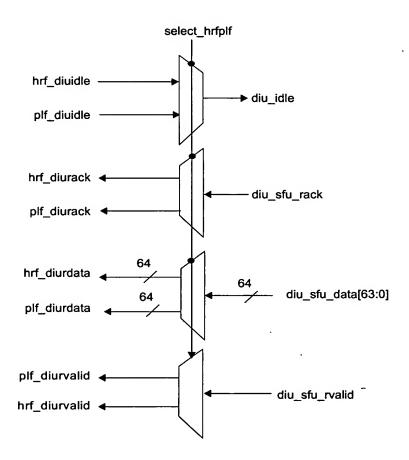


FIG. 171

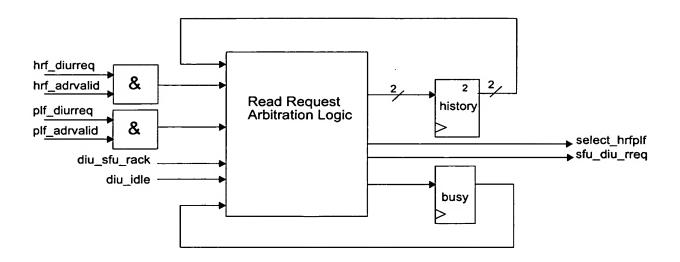


FIG. 172

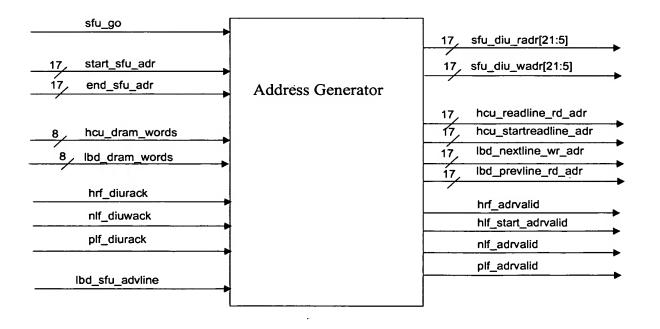


FIG. 173

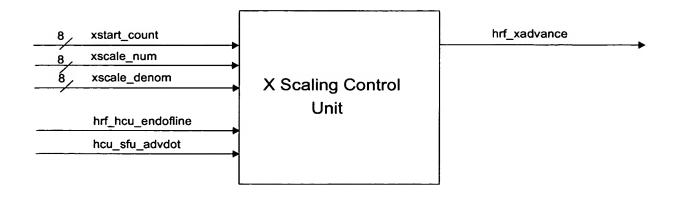


FIG. 174

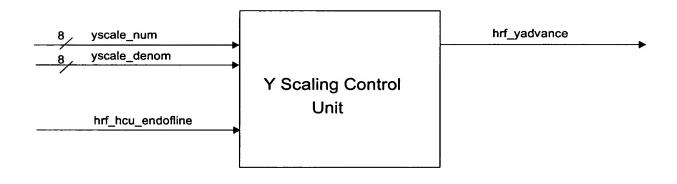


FIG. 175

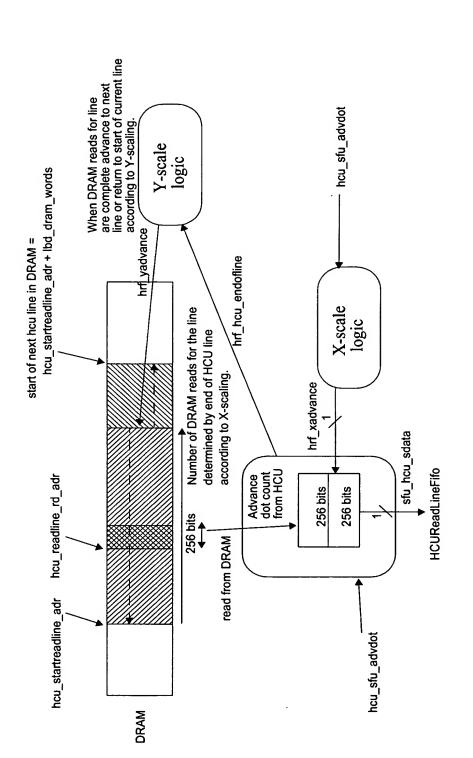


FIG. 176

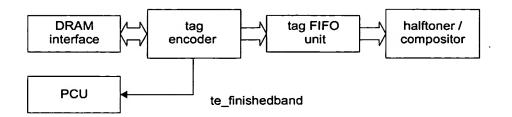


FIG. 177

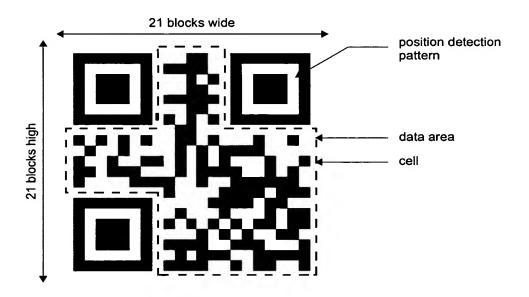
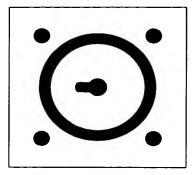
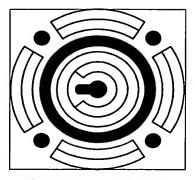


FIG. 178



(a) Netpage tag background pattern



(b) Netpage tag showing data area

FIG. 179

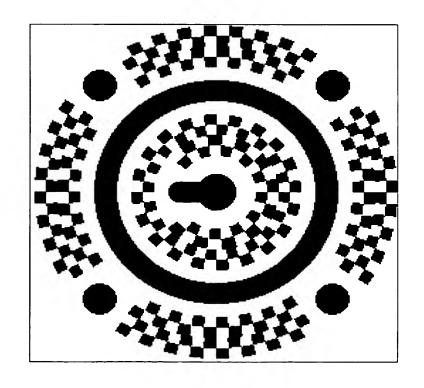


FIG. 180

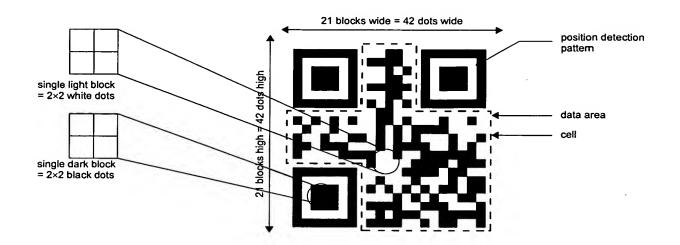


FIG. 181

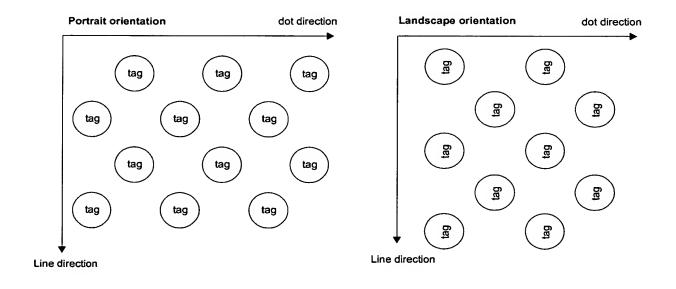


FIG. 182

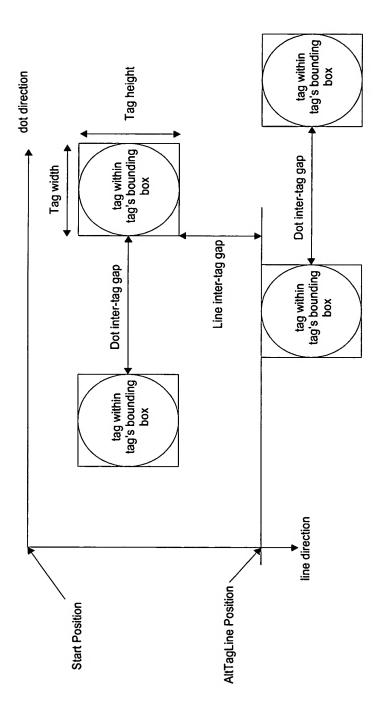
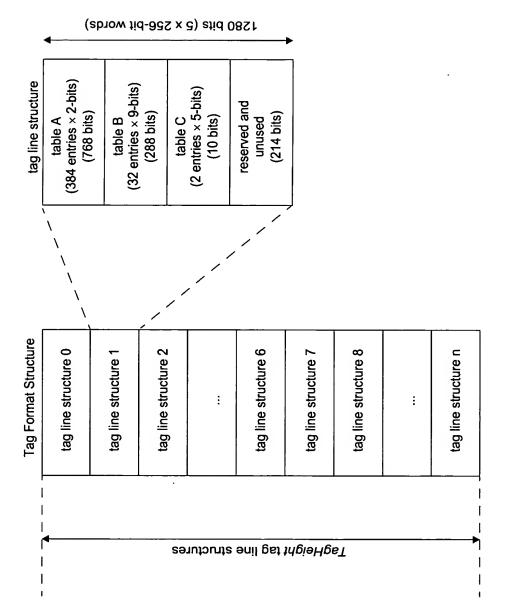
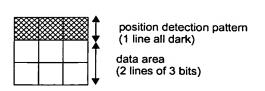


FIG. 183





always 1	always 1	always 1					
(background)	(background)	(background)					
data	data	data					
bit 0	bit 1	bit 2					
data	data	data					
bit 4	bit 5	bit 3					

FIG. 185

Lege	nd

	constant 0
	constant 1
ьо	data bit 0
b1	data bit 1
b2	data bit 2
b3	data bit 3
b4	data bit 4
h5	data bit 5

		***						**	***	***	***				***	***	***	***	***	
						\bowtie	\boxtimes						\boxtimes	\otimes						
₩	₩	₩	₩	₩	₩	₩	₩	▓	₩		₩		₩		₩	₩	₩	₩		₩
₩		₩		₩	***	***	₩	₩	₩				***		₩	₩				₩
₩		▓			***	***	₩	₩	***			***	***		***	$\overset{\circ}{\otimes}$	$\overset{\text{**}}{\overset{\text{*}}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}}{\overset{\text{*}}{\overset{\text{*}}}{\overset{\text{*}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}{\overset{\text{*}}{\overset{\text{*}}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{\text{*}}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}}{\overset{\text{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}{\overset{*}}}{\overset{*}}{\overset{*}}{\overset{*}}$	***	***	
***						***	***	▓					***	***	▓			₩	₩	
	ьо	ьо	ьо	ьо	ьо			b1	b1	b1	b1	b1		\vdash	b2	b2	b2	b2	b2	
ьо	ьо	ьо	ьо	ьо	ьо	ьо	b1	b1	b1	b1	b1	b1	b1	b2	b2	b2	b2	b2	b2	b2
ьо	ьо	ьо	ьо	ьо	ьо	ьо	b1	b1	ь1	b1	b1	b1	b 1	b2	b2	b2	b2	b2	b2	b2
ьо	ьо	ьо	ьо	ьо	ьо	ьо	b1	b1	b1	b1	b1	b1	ь1	b2	b2	b2	b2	b2	b2	b2
ь0	ьо	ьо	ьо	ьо	ьо	ьо	b1	ь1	b1	b1	ь1	b1	b1	b2	b2	b2	b2	b2	b2	b2
ьо	ьо	ьо	ьо	ьо	ьо	ьо	ь1	b1	ь1	b1	ь1	b1	b1	b2	b2	b2	b2	b2	b2	b2
	ьо	ьо	ьо	ьо	ьо			b1	ь1	b1	b1	b1			b2	b2	b2	b2	b2	
	b4	b4	b4	b4	b4			b 5	b5	b5	b5	b5			b3	b3	ь3	ь3	ь3	
b4	b4	b4	b4	b4	b4	b4	b5	b5	b5	b5	b5	b5	b5	ь3	ь3	b3	ь3	ь3	ь3	ь3
b4	b4	b4	b4	b4	b4	b4	b5	b5	b5	b5	b5	b5	b5	ь3	b 3	b3	ь3	ь3	ь3	b3
b4	b4	b4	b4	b4	b4	b4	b5	b5	b5	b5	b5	b5	b5	ь3	ь3	ь3	ь3	ь3	ь3	ь3
b4	b4	b4	b4	b4	b4	b4	b5	b5	b5	b5	b5	b5	b5	ь3	ь3	ьз	ь3	ь3	ь3	ь3
b4	b4	b4	b4	b4	b4	b4	b5	b5	b5	b5	b5	b5	b5	ь3	ь3	ьз	ь3	ь3	ь3	ь3
	b4	b4	b4	b4	b4			b5	b5	b5	b5	b5			ь3	ь3	ь3	ь3	ь3	L

FIG. 186

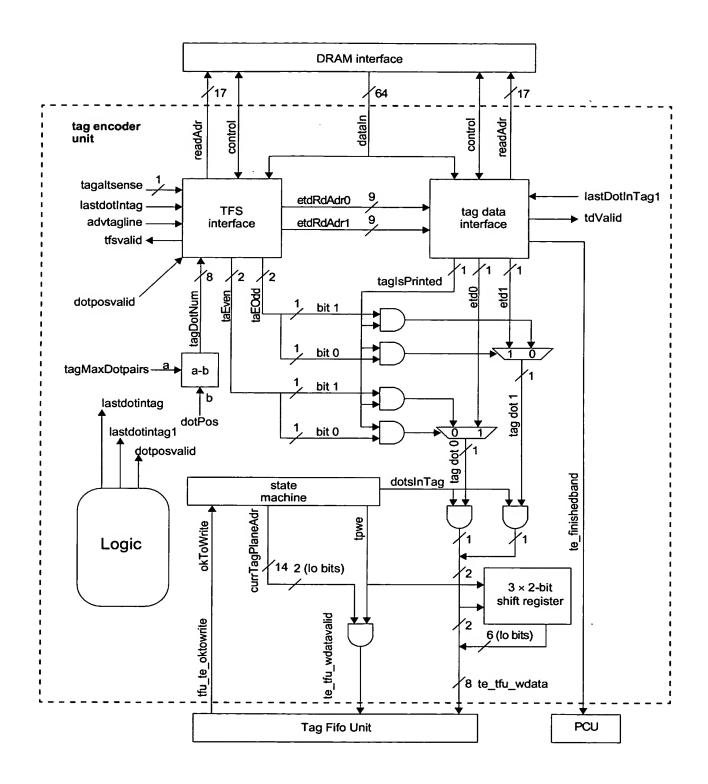


FIG. 187

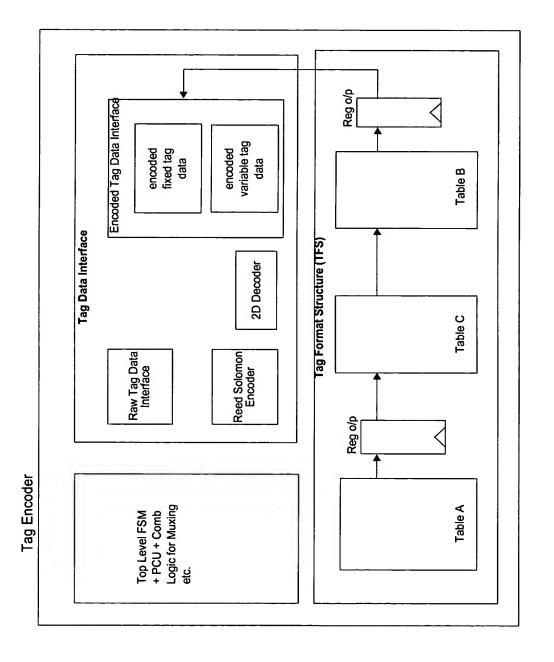


FIG. 188

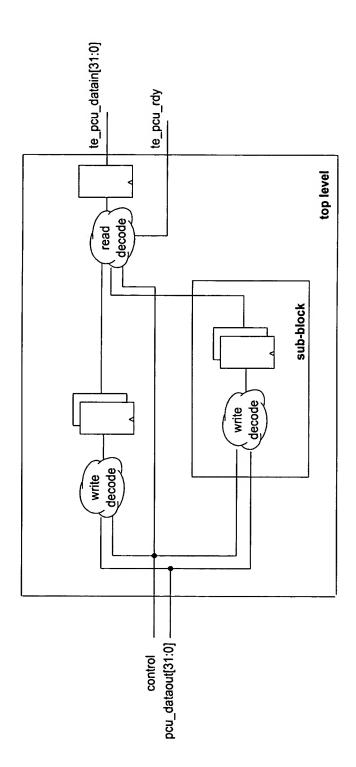


FIG. 189

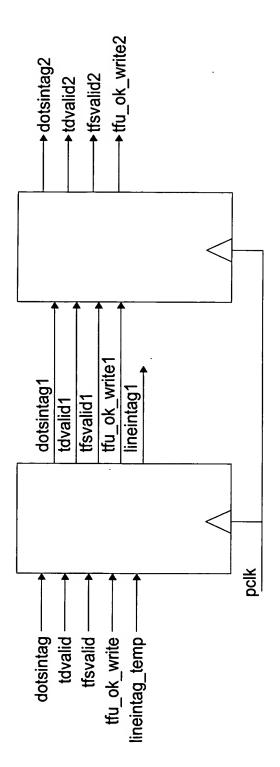


FIG. 191

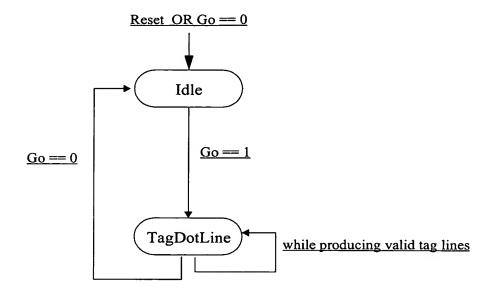


FIG. 190

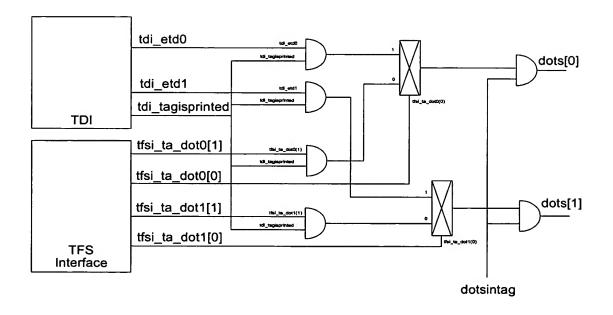


FIG. 192

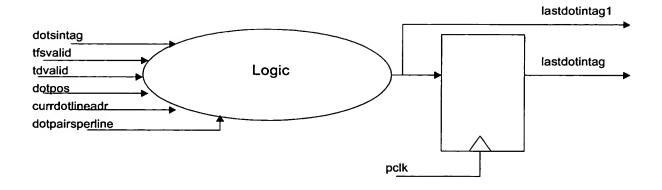


FIG. 193

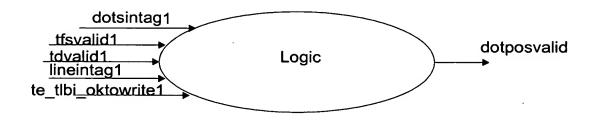


FIG. 194

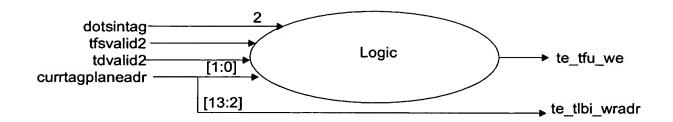


FIG. 195

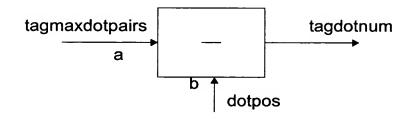


FIG. 196

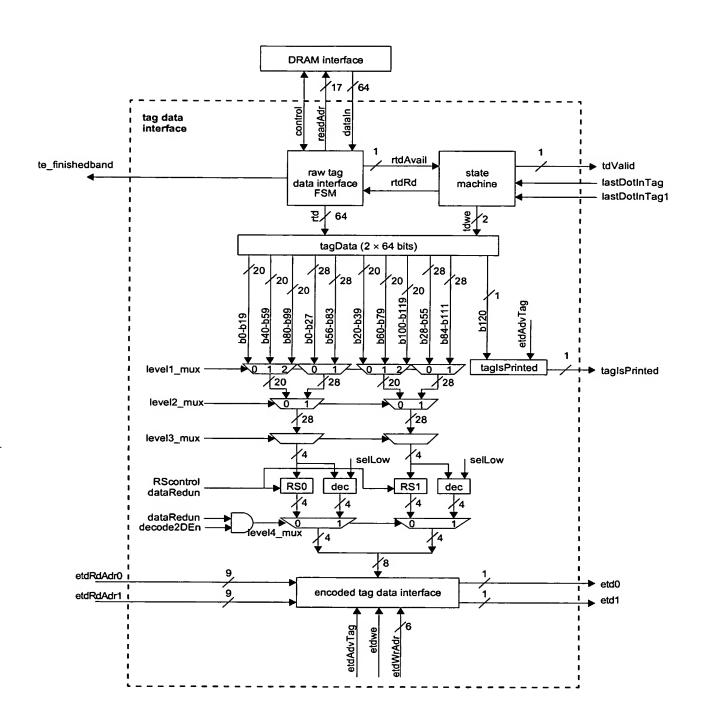
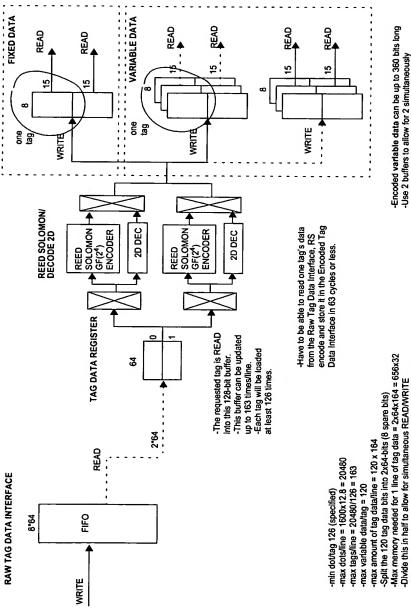


FIG. 197

ENCODED TAG DATA INTERFACE

-Encoded fixed data can be up to 120 bits long -Use 2 buffers to allow for 2 simultaneously READs in one cycle.

-These stores hold the fixed tag data for 1 tag. -Total memory = 120x2 = 240 bits



•Total memory = 360x2x2 = 1280 bits

-Min tag width = 126 dots

so the fastest that 1 tag can be read = 126/2 = 63 cycles -Use 2 buffers to allow for 2 simultaneously READs in one cycle. -Use 2 buffers to allow for simultaneously READ/WRITE

Once printing has started each half buffer has 1/2 a line in which to be loaded i.e. for a 12,8 inch line it has 10240 dots or 5120 cycles

for an 8 inch line it has 6400 dots or 3200 cycles

-The store uses 9-bit addressing. Bit-9 indicates which buffer.

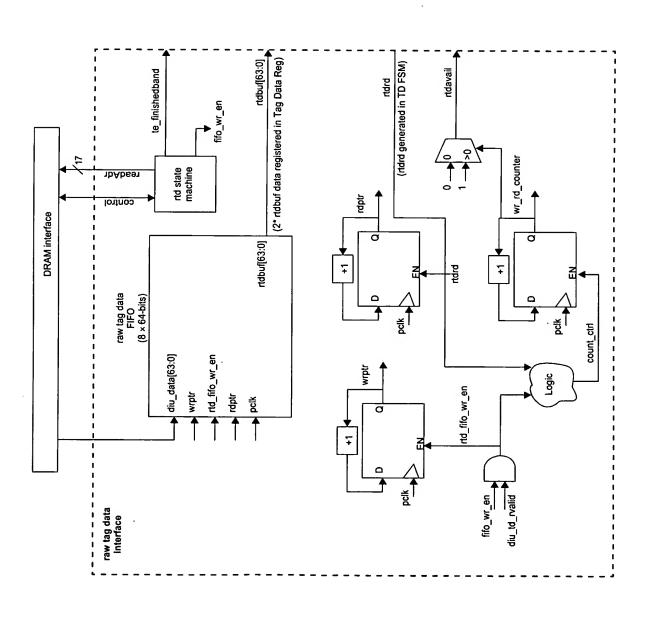
-Total memory = 164x2x64 = 20992-bits

-Therefore the data will be updated at most every 1290240 cycles.

-126 lines contains 20480x126 = 2580480 dots.

-From the specification, we must be able to process 2 dots/cycle.

Once all this data is loaded it will be valid for at least 126 lines.



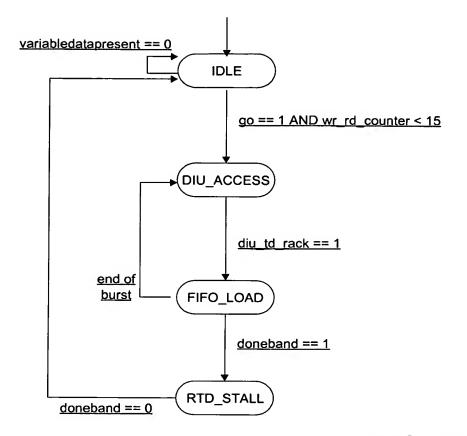


FIG. 200

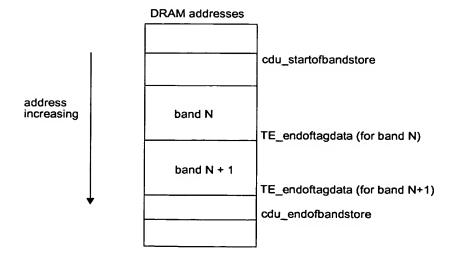
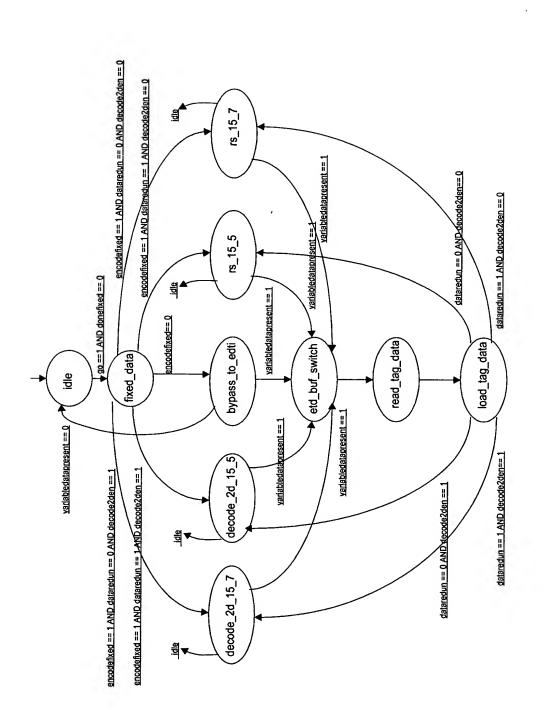


FIG. 201



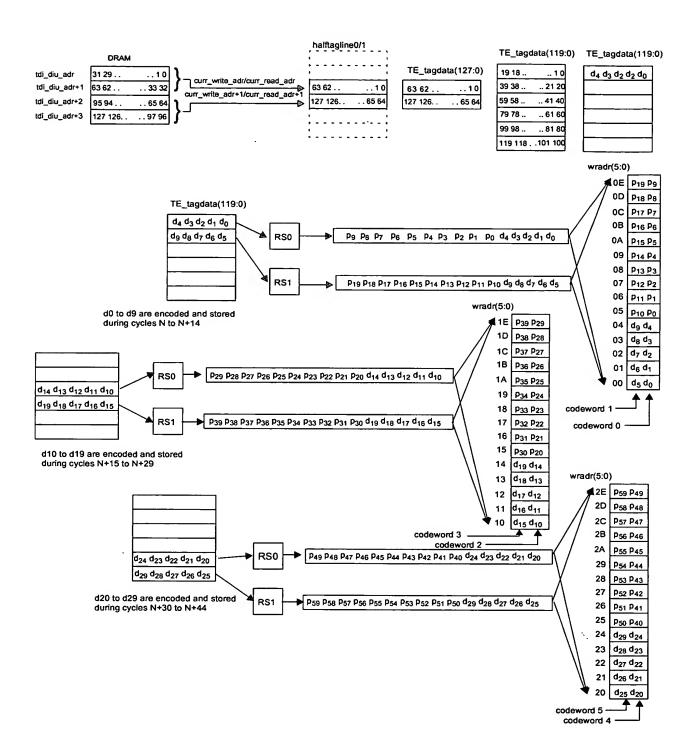


FIG. 203

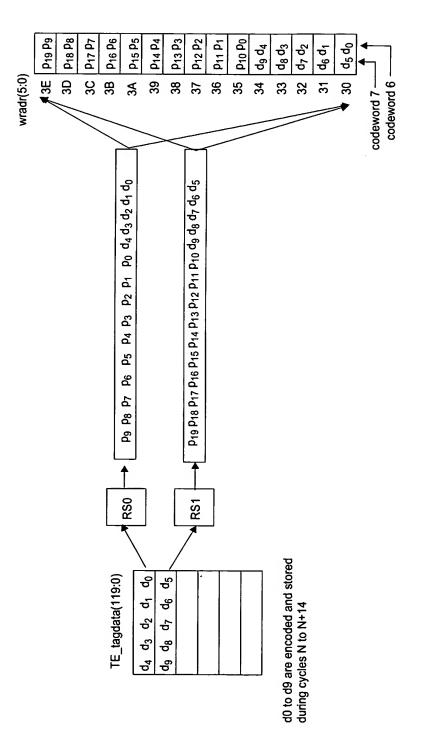


FIG. 204

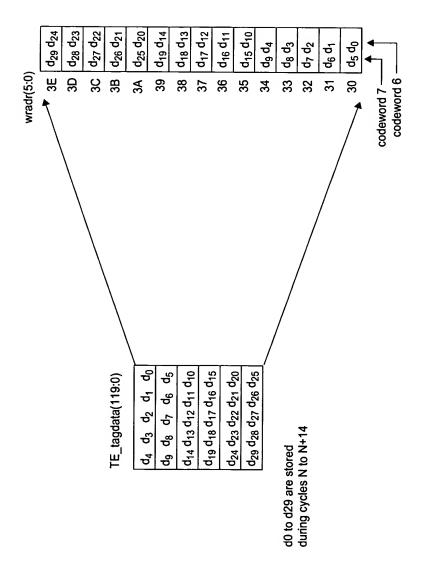


FIG. 205

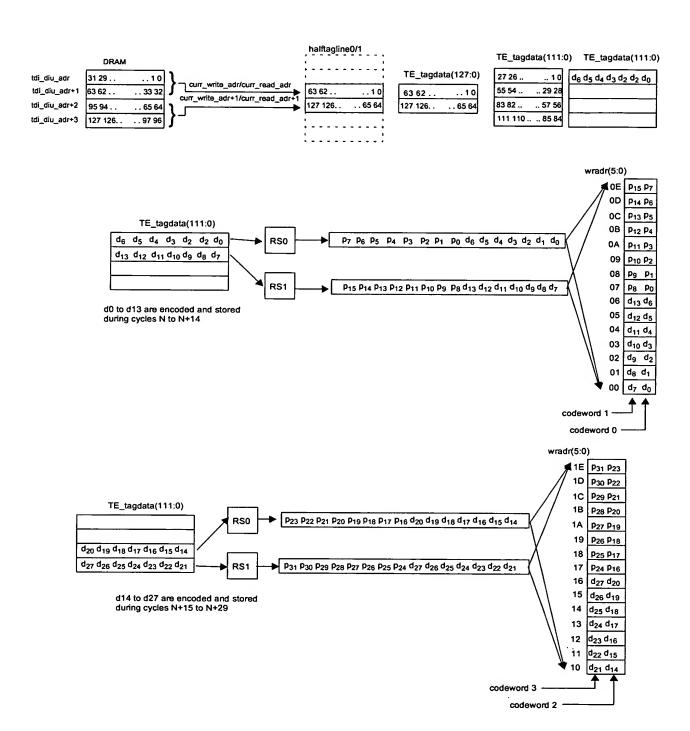


FIG. 206

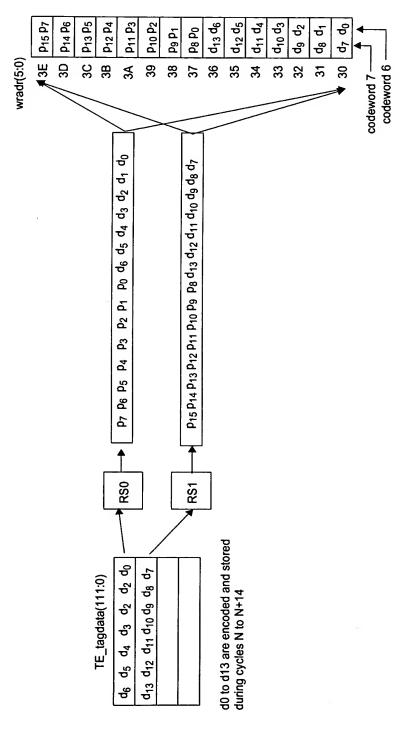


FIG. 207

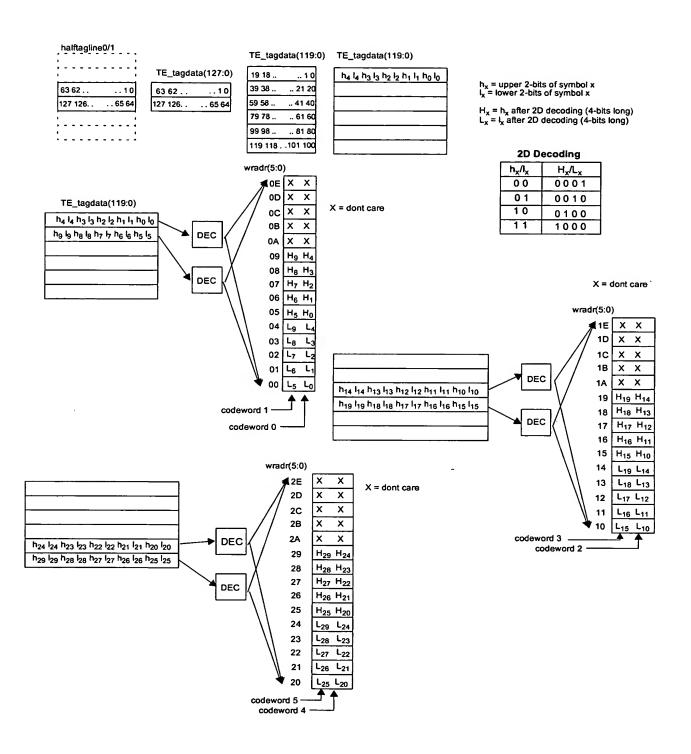
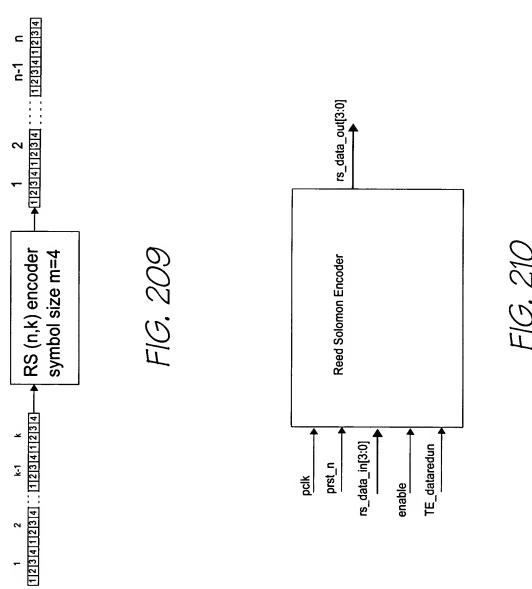
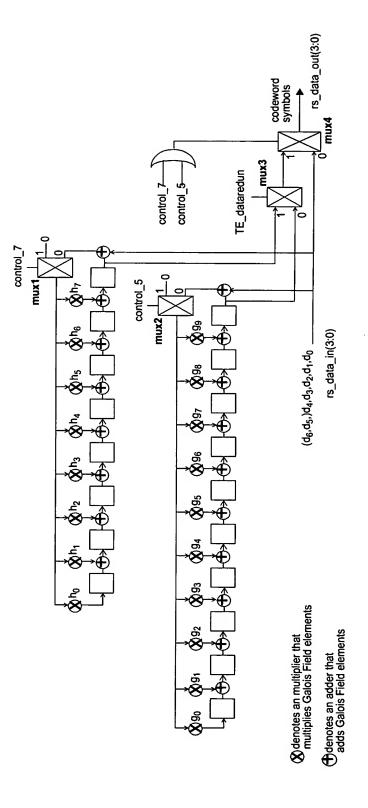


FIG. 208





F1G. 21

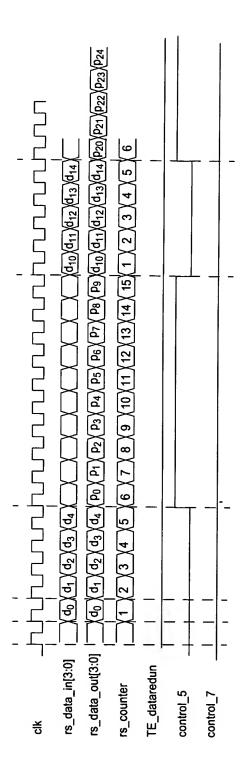


FIG. 212

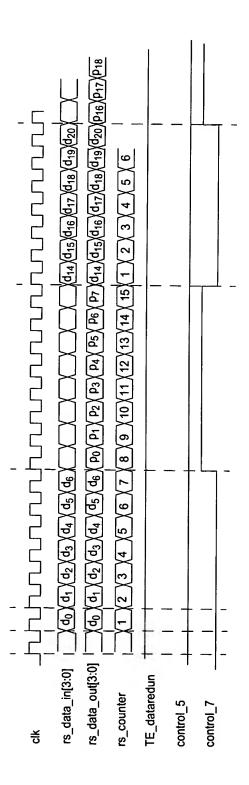
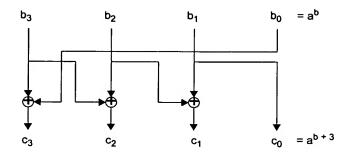
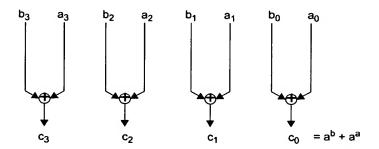


FIG. 213



exclusive OR gate

FIG. 214



exclusive OR gate

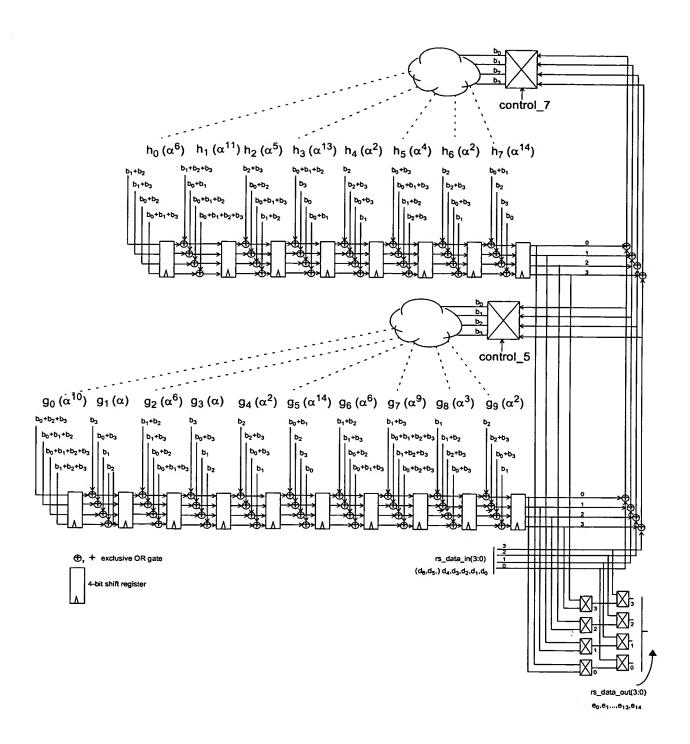


FIG. 216

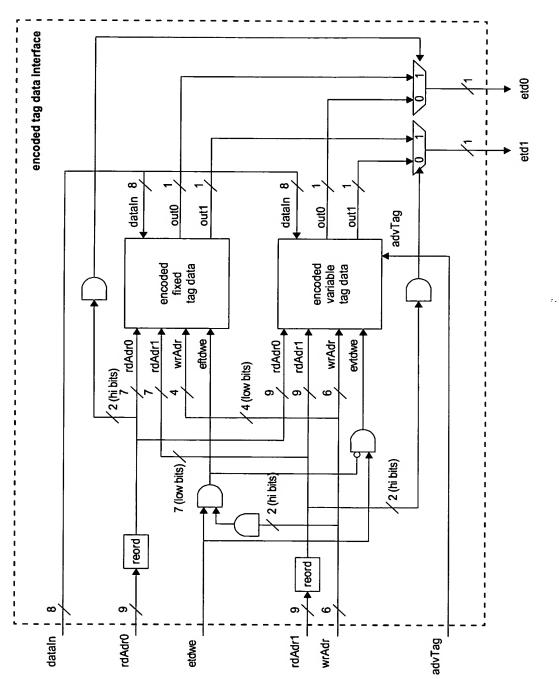


FIG. 217

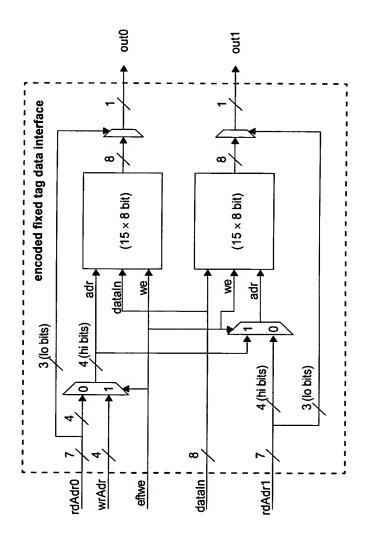


FIG. 218

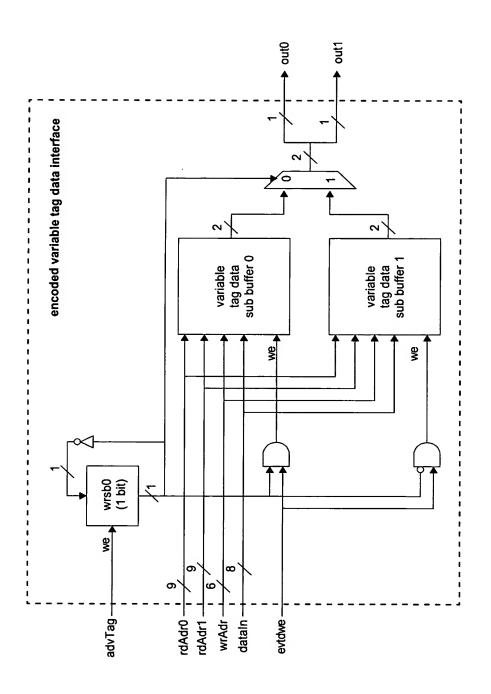


FIG. 219

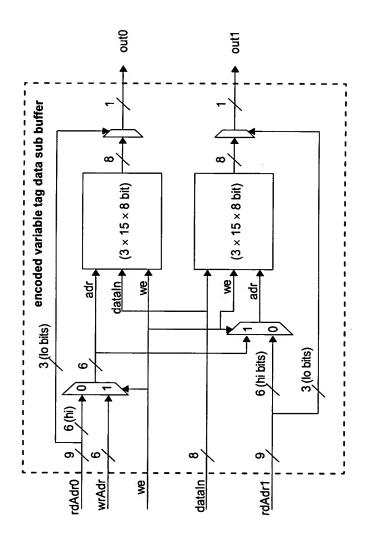


FIG. 220

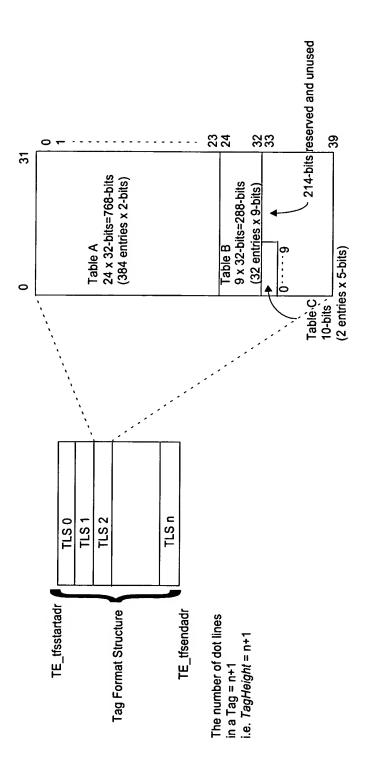


FIG. 221

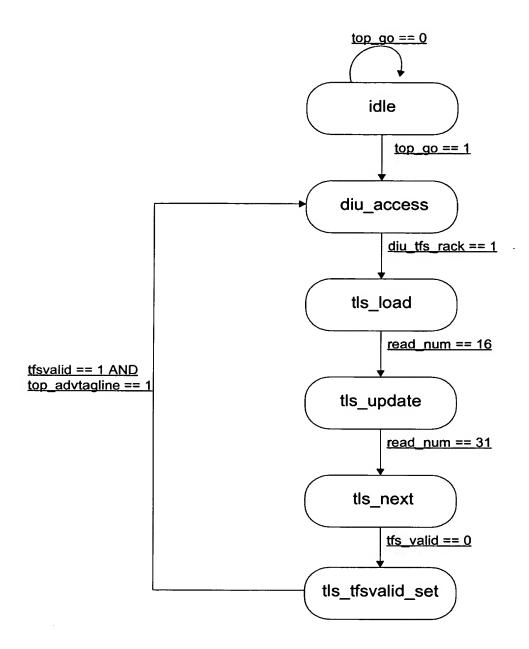


FIG. 222

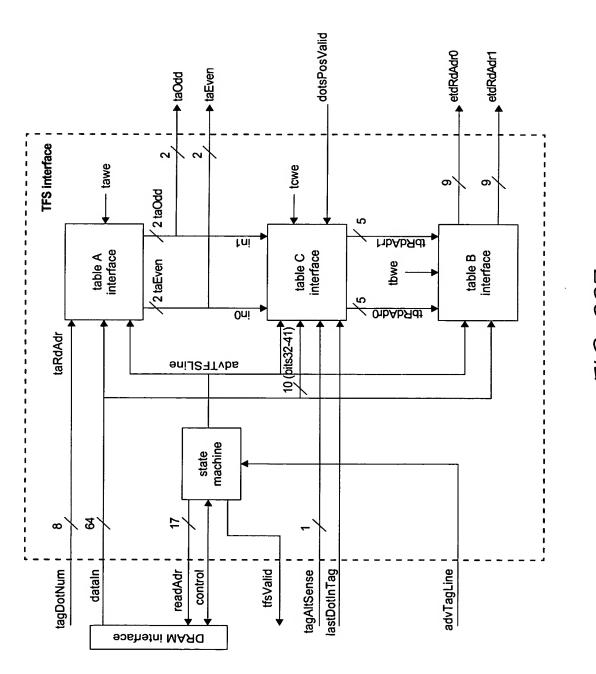


FIG. 223

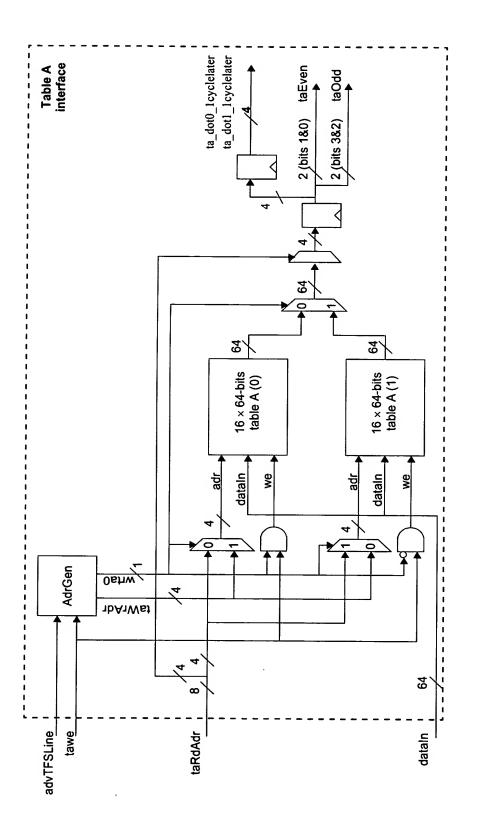


FIG. 224

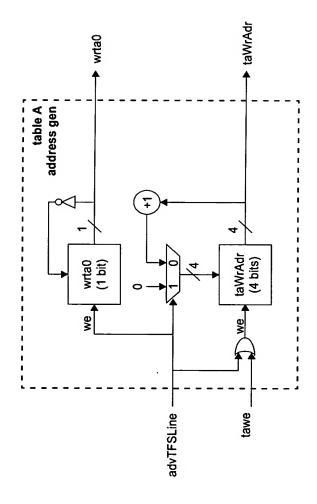


FIG. 225

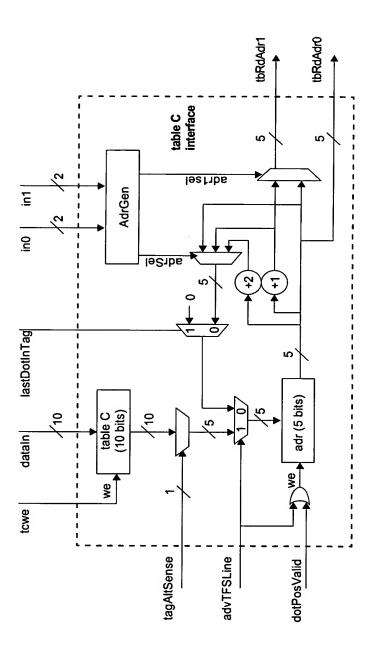


FIG. 226

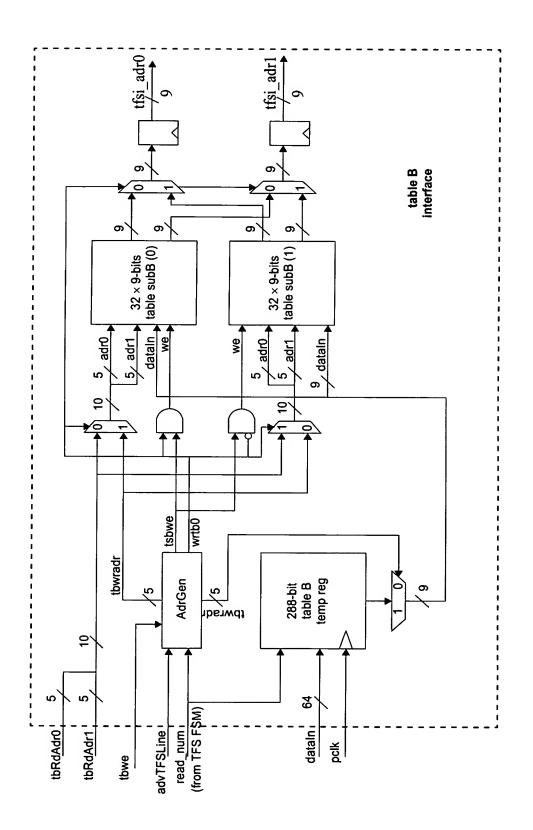
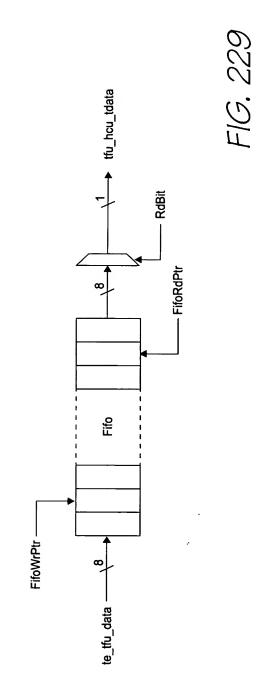


FIG. 227



당 hcu_tfu_advdot tfu_hcu_avail FIFO TFU te_tfu_wdata 8 te_tfu_wdatayalid te_tfu_wradvline ffu_te_oktowrite 工

FIG. 228

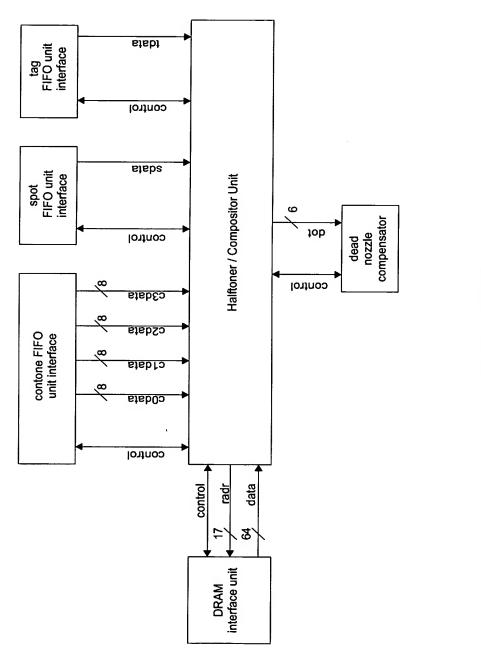


FIG. 230

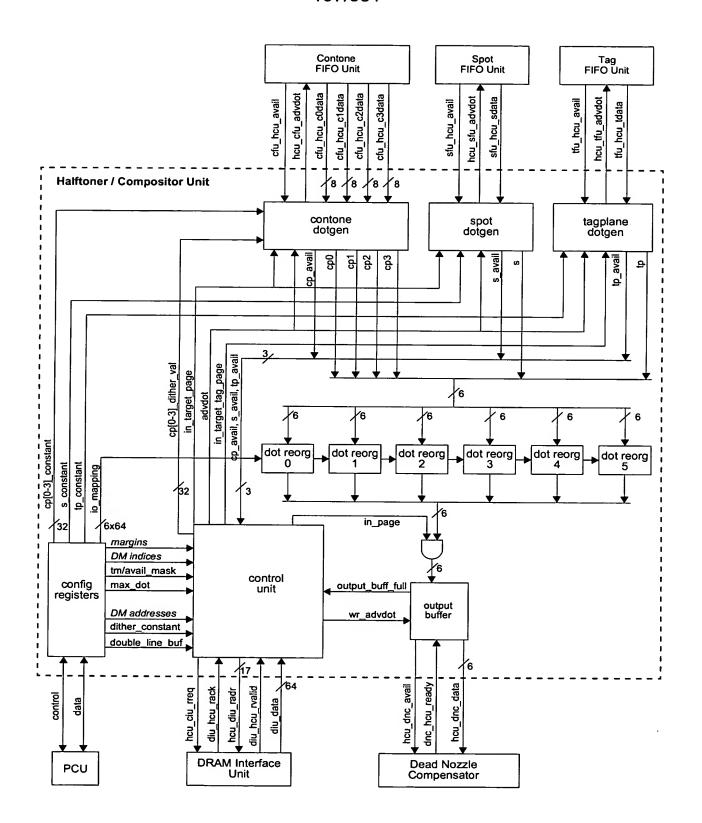
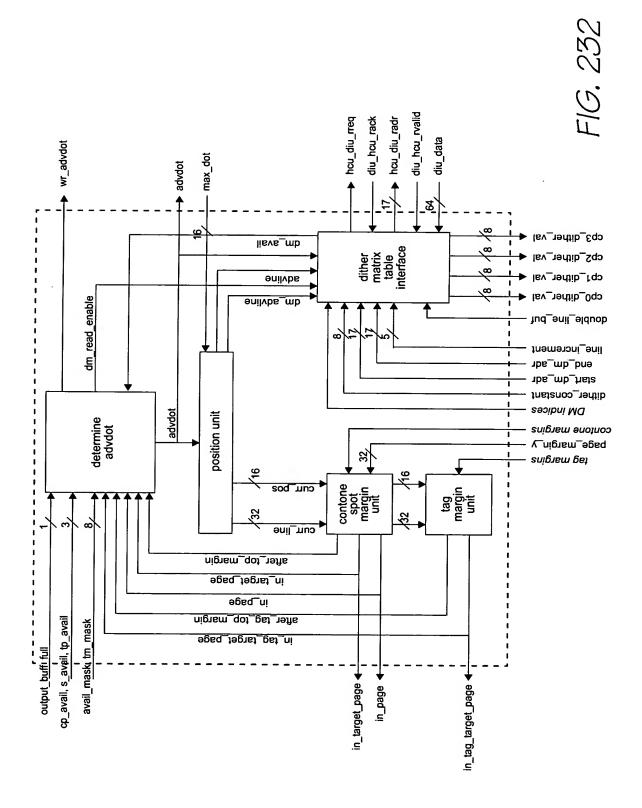
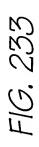
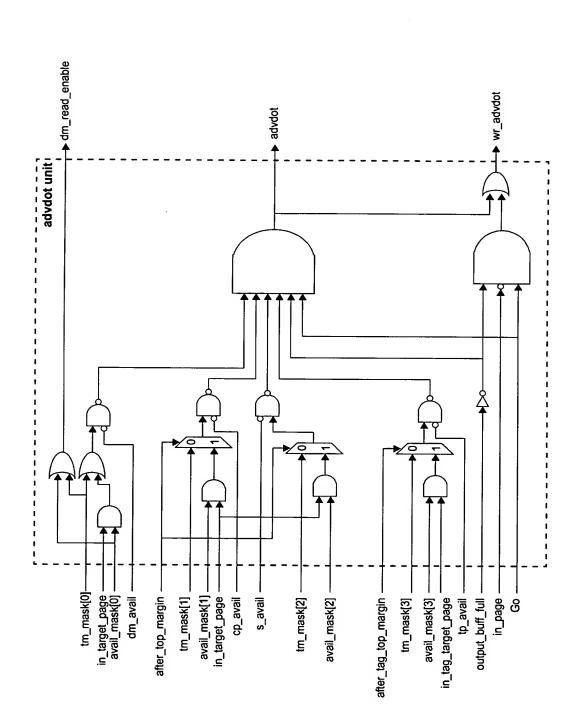


FIG. 231







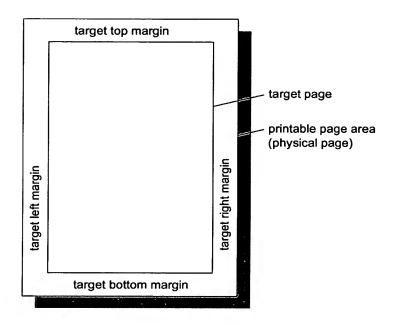


FIG. 234

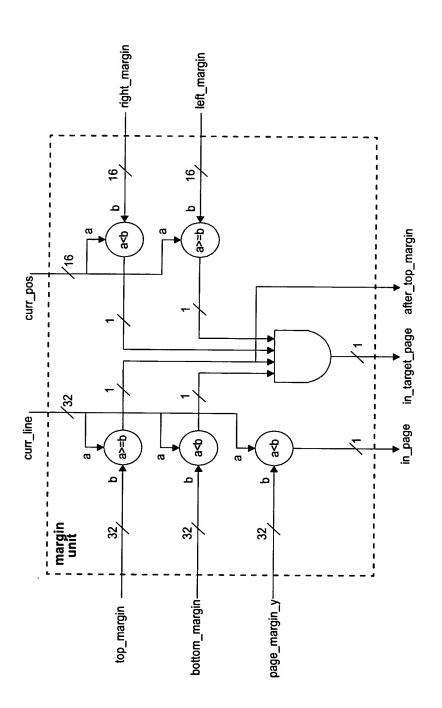
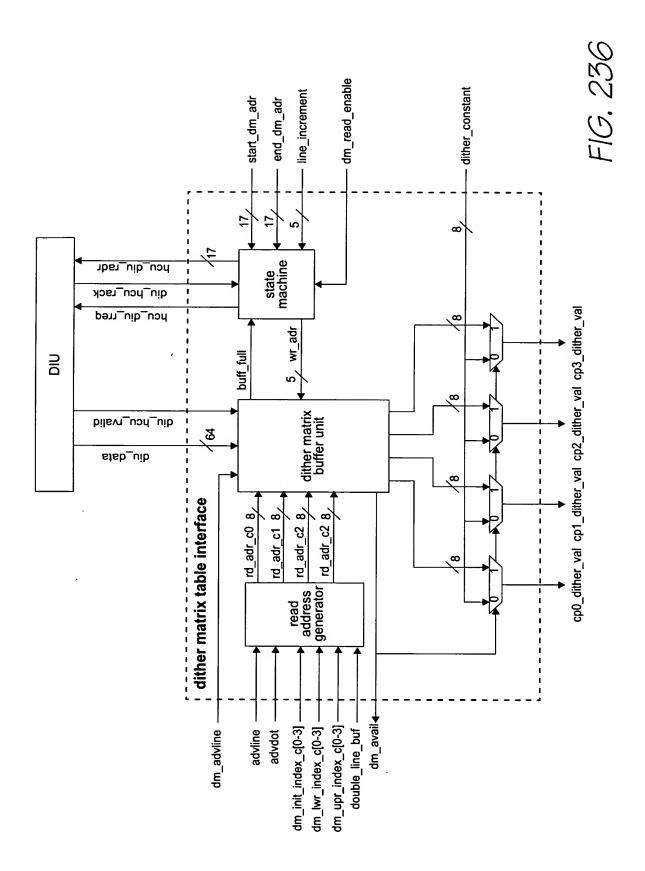


FIG. 235



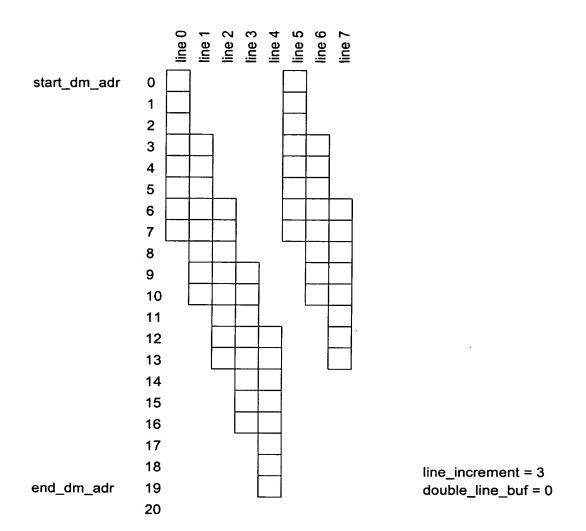


FIG. 237

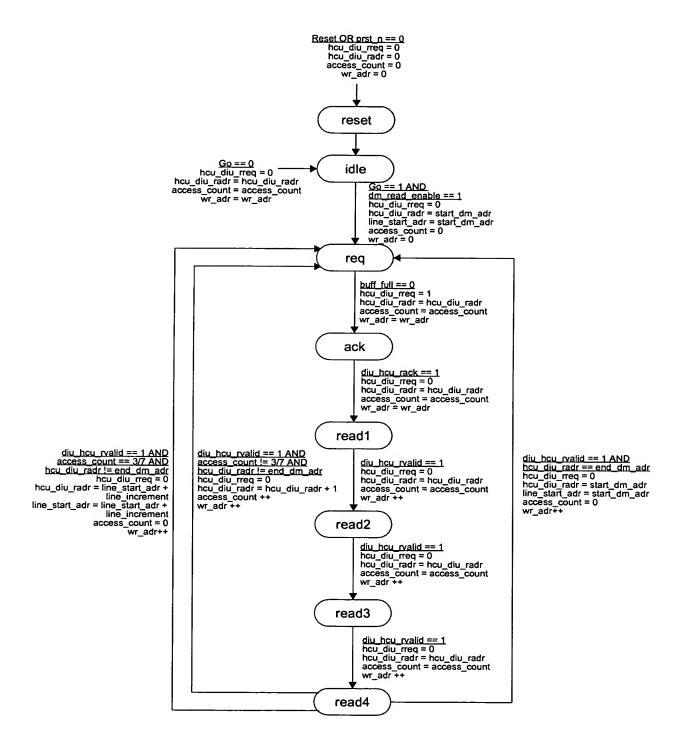
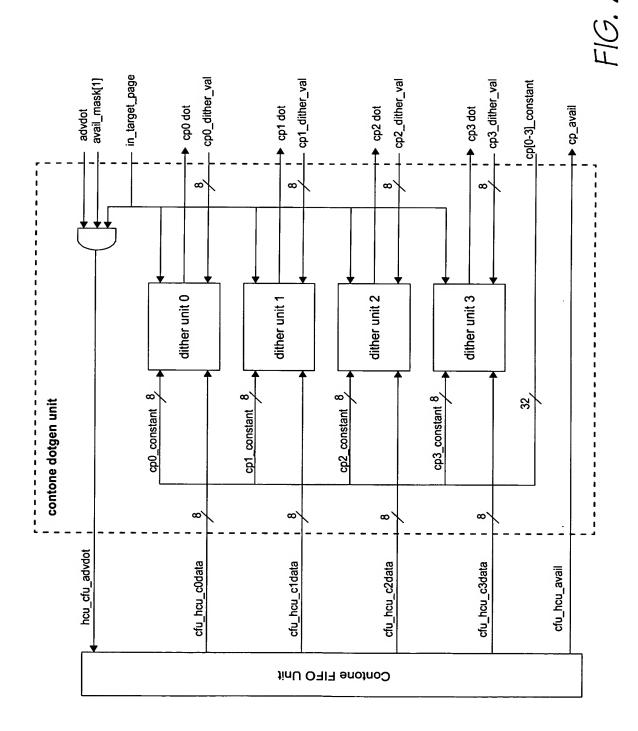


FIG. 238



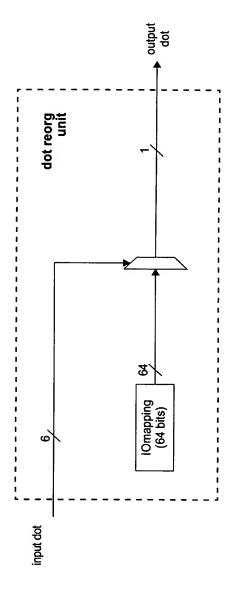
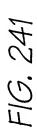
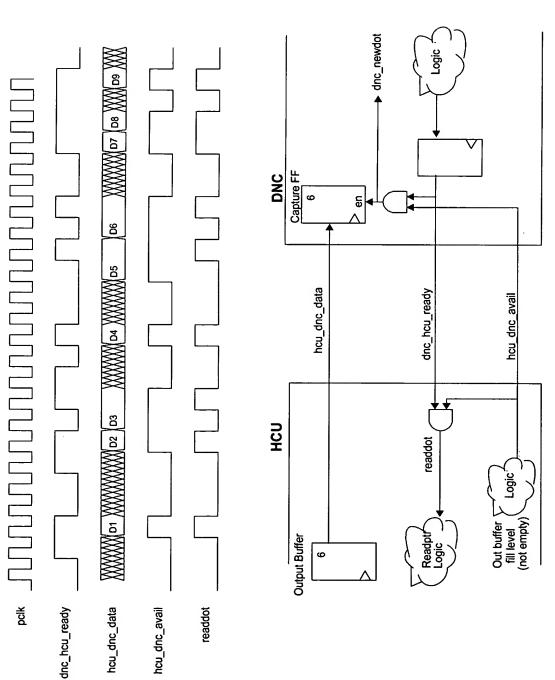


FIG. 24(





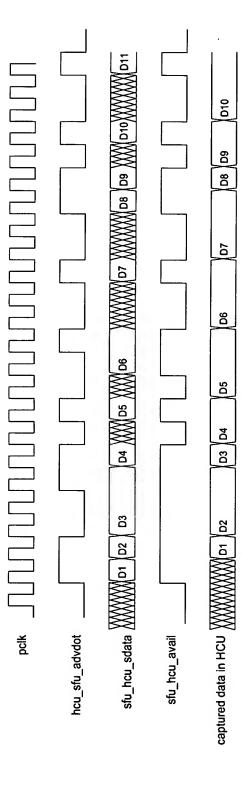


FIG. 242

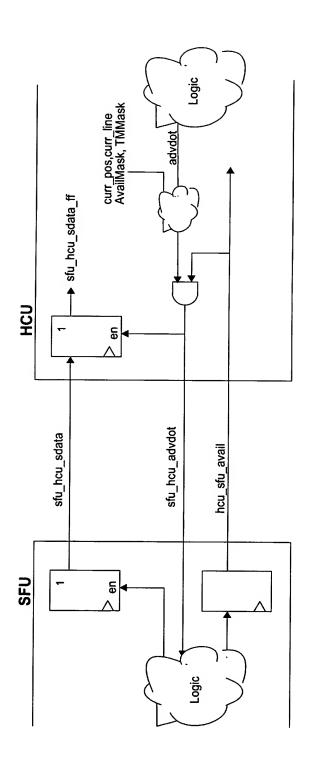


FIG. 243

210/331

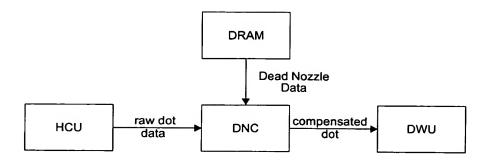


FIG. 244

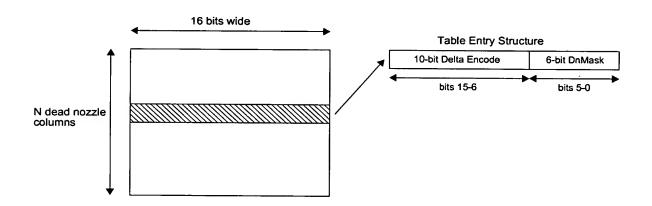


FIG. 245

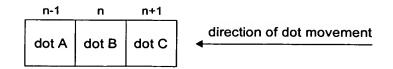


FIG. 246

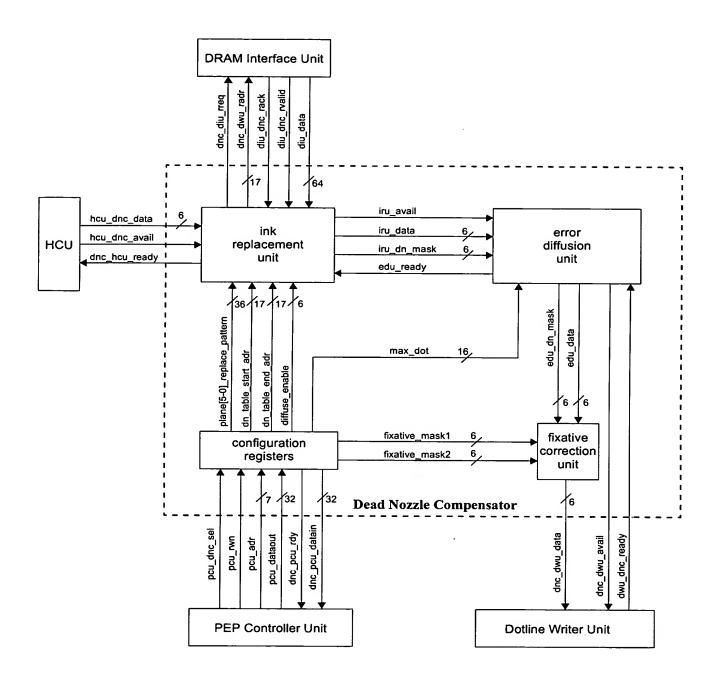


FIG. 247

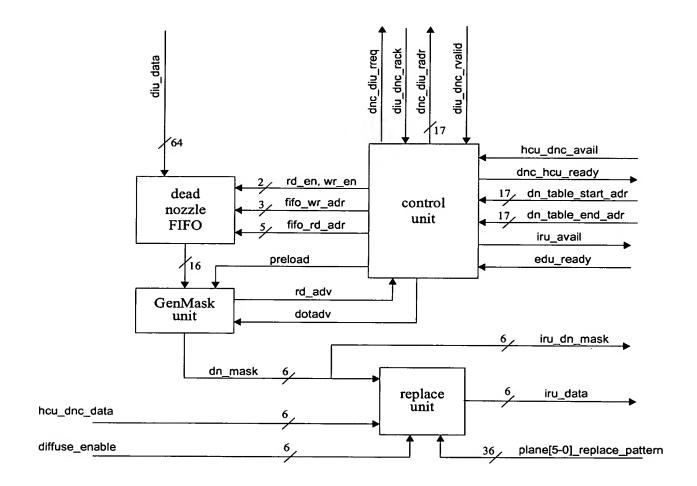


FIG. 248

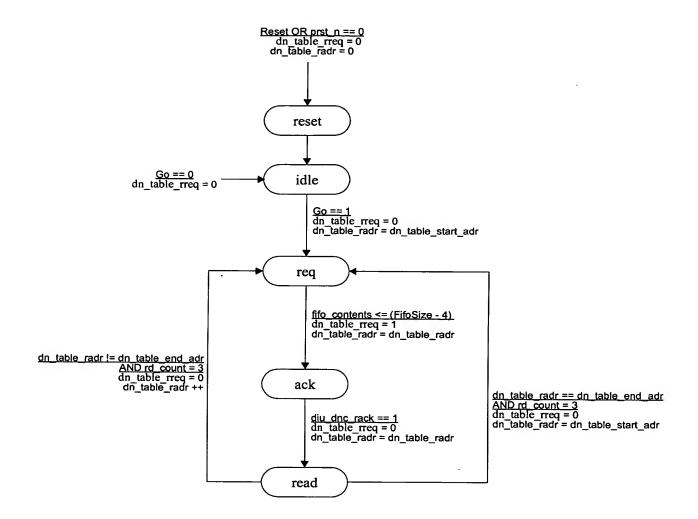


FIG. 249

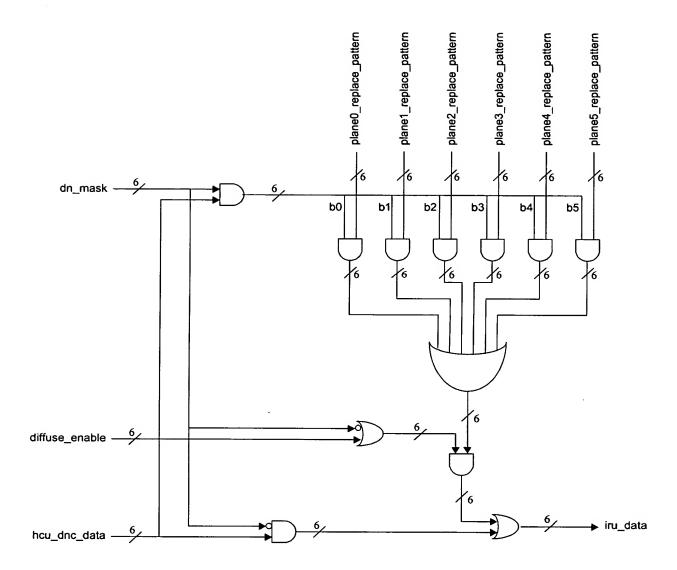


FIG. 250

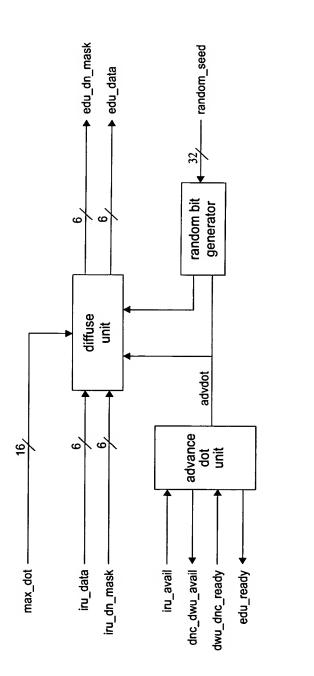
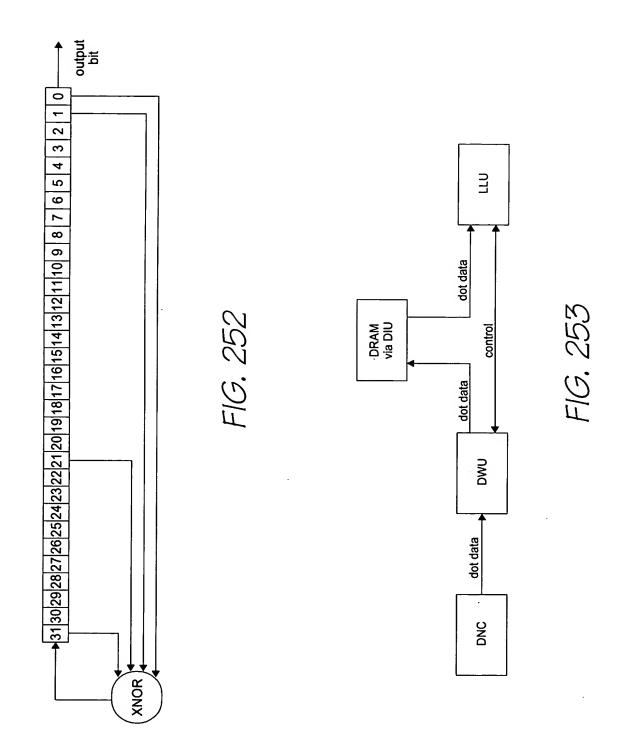
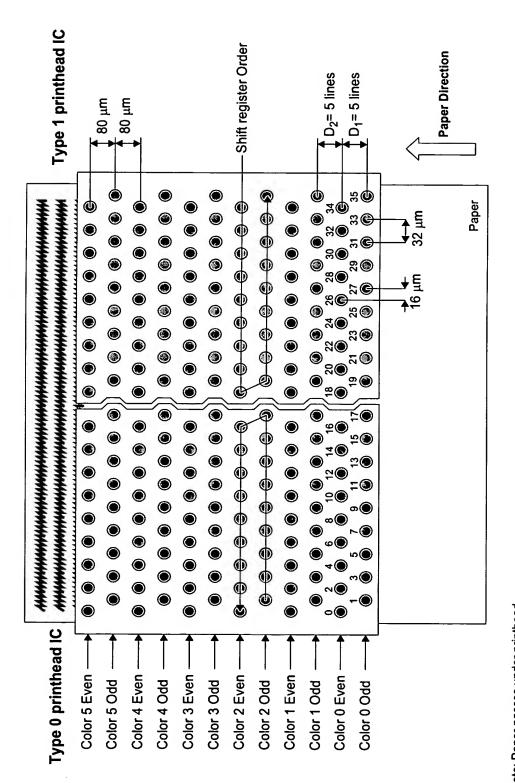


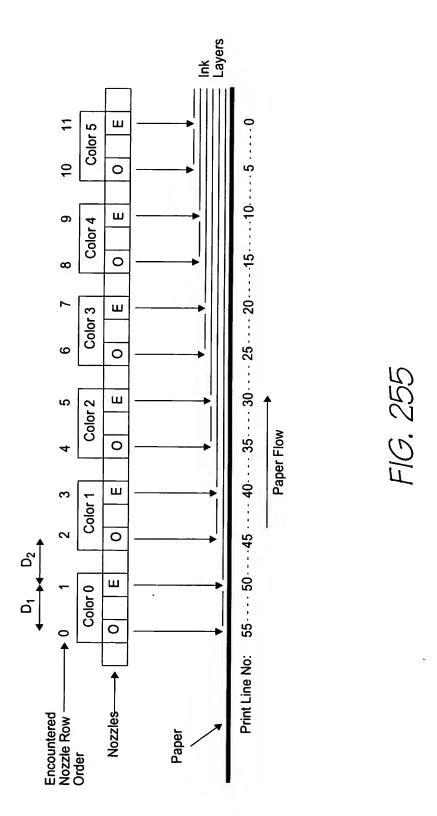
FIG. 251

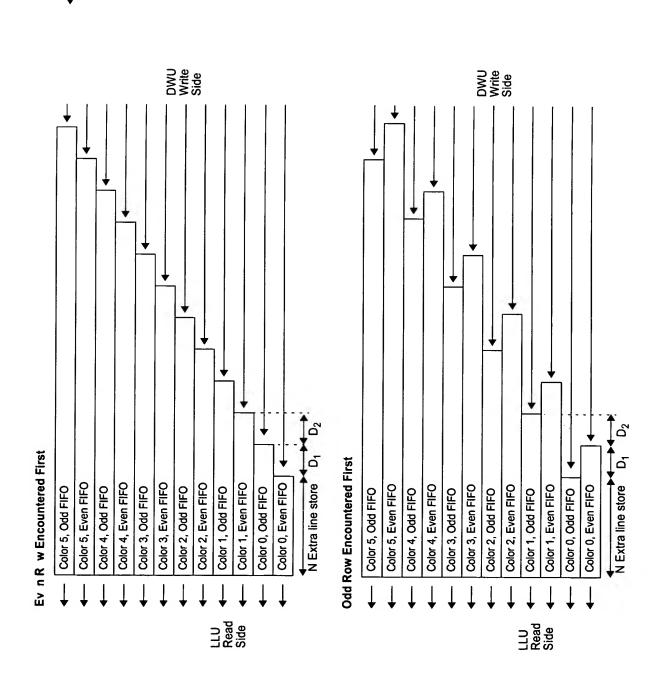


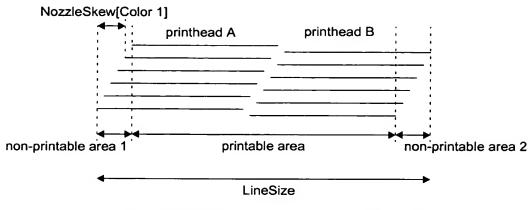


Note: Paper passes under printhead

FIG. 254







non-printable area 1 = inverted non-printable area 2

FIG. 257

printhead A	printhead B
	

FIG. 258

write pt

x2 Buffering

128 bits

x1.5 Buffering write pt

FIFO empty writing begins

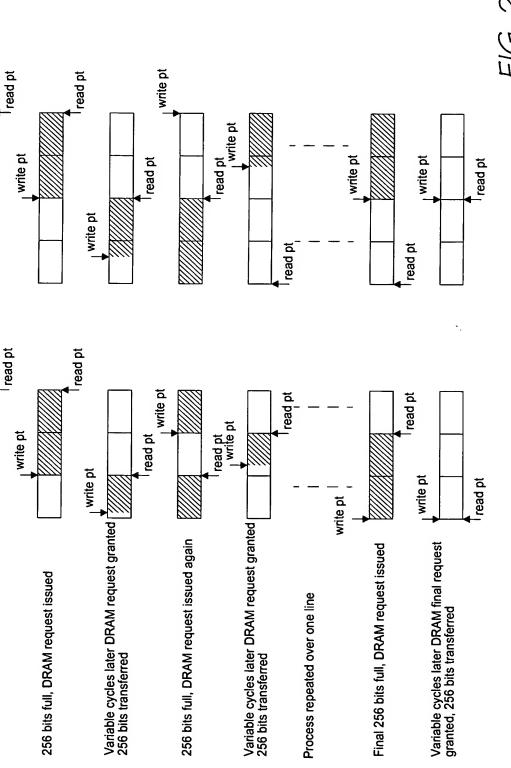


FIG. 259

F1G. 260

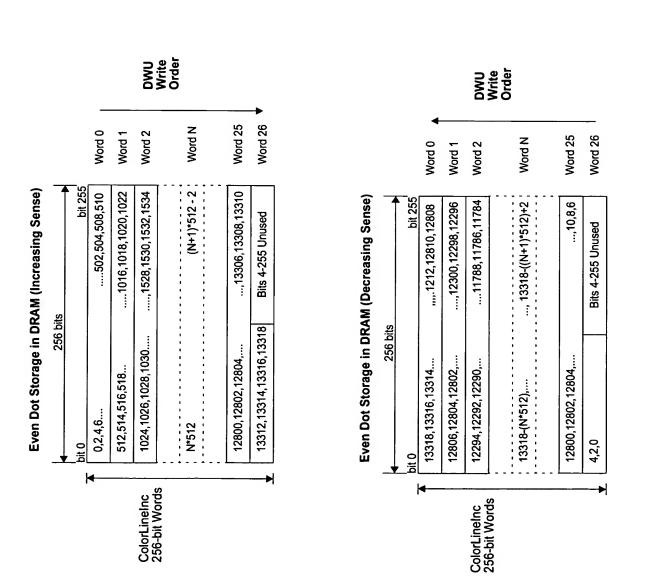


FIG. 261

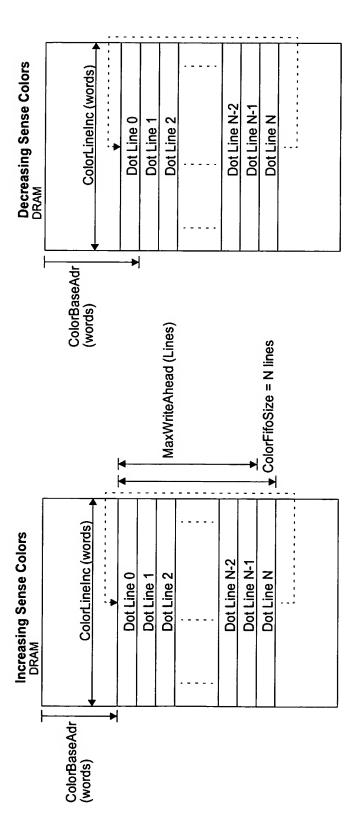


FIG. 262

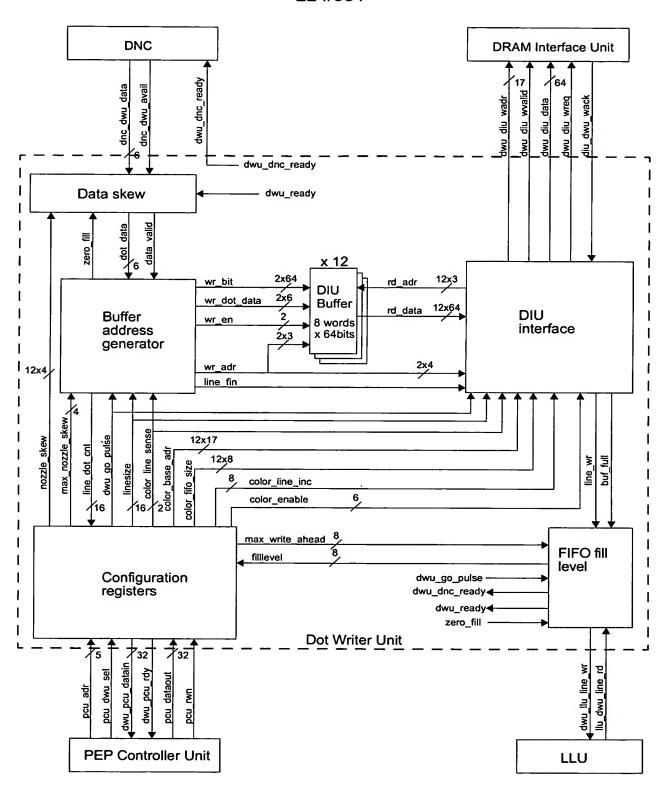


FIG. 263

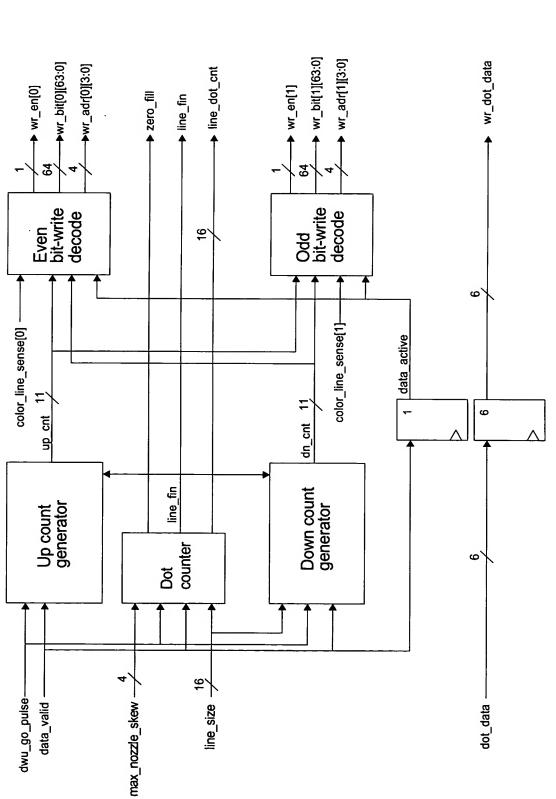
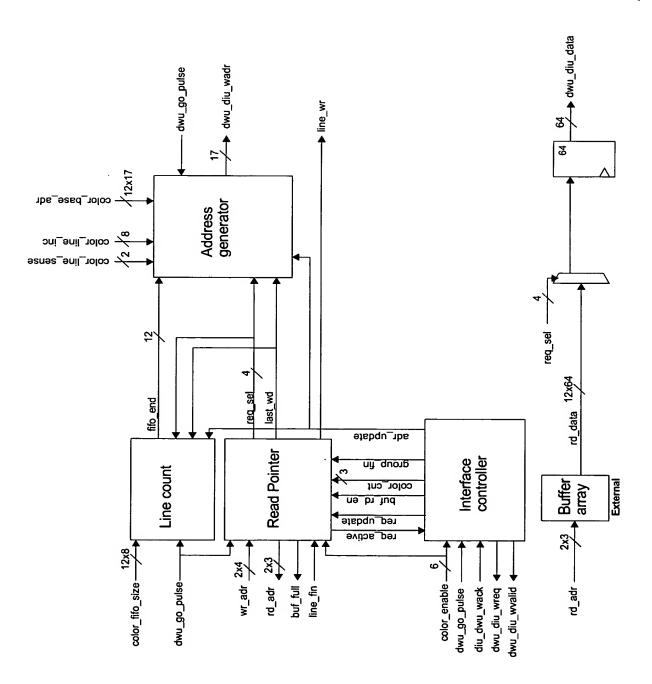
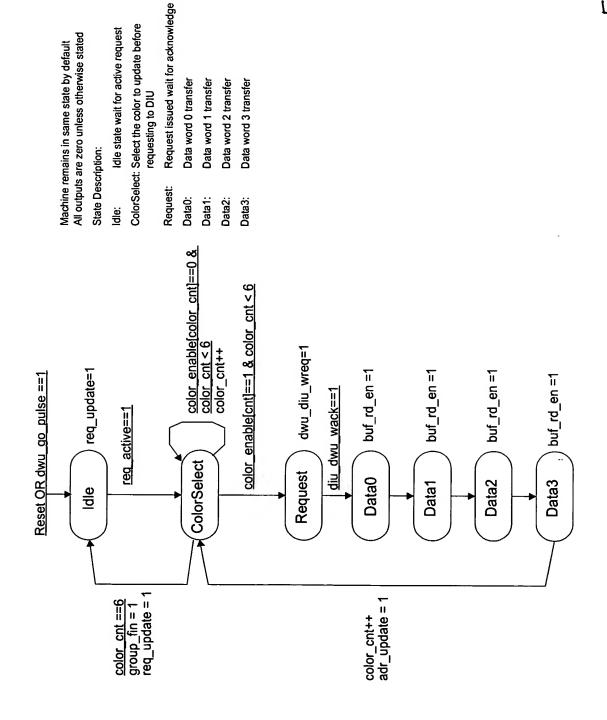


FIG. 264





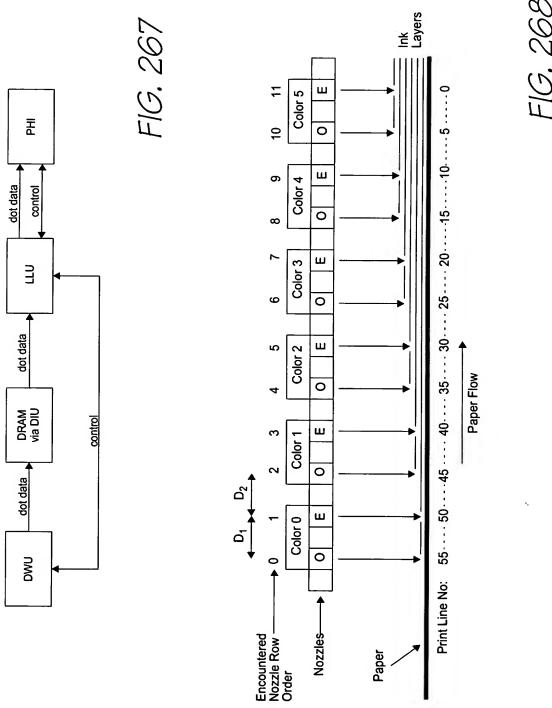
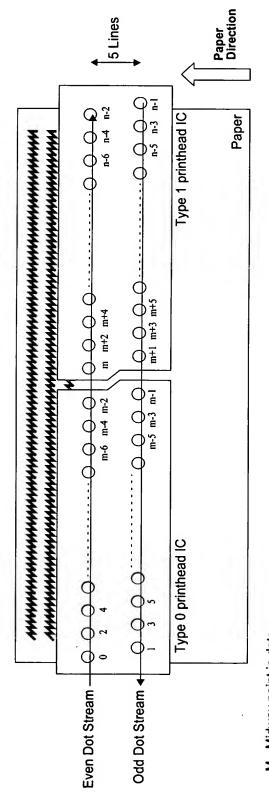


FIG. 268



M - Midway point in dots
N - Number of dots in a line

Note: Paper passing under printhead

FIG. 269

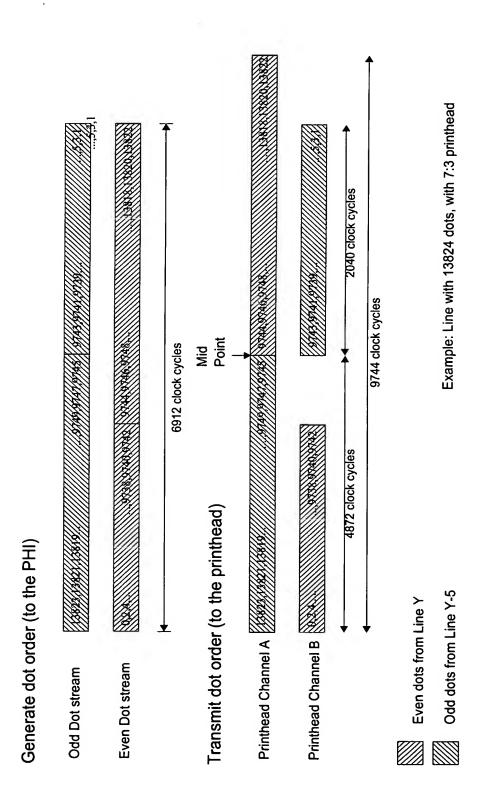


FIG. 270

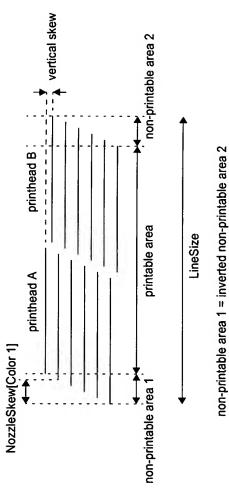


FIG. 27.

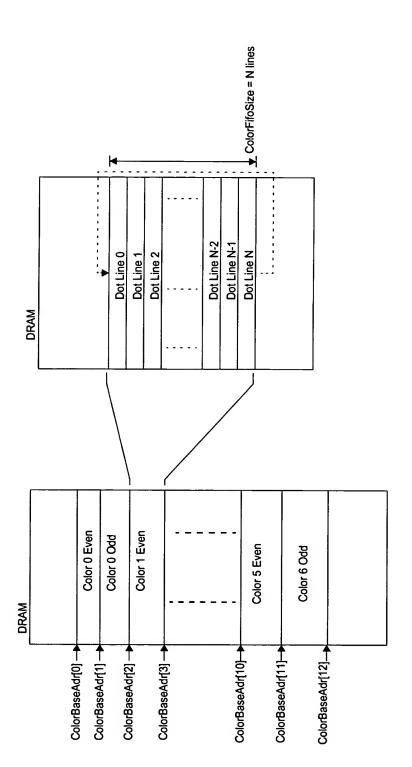
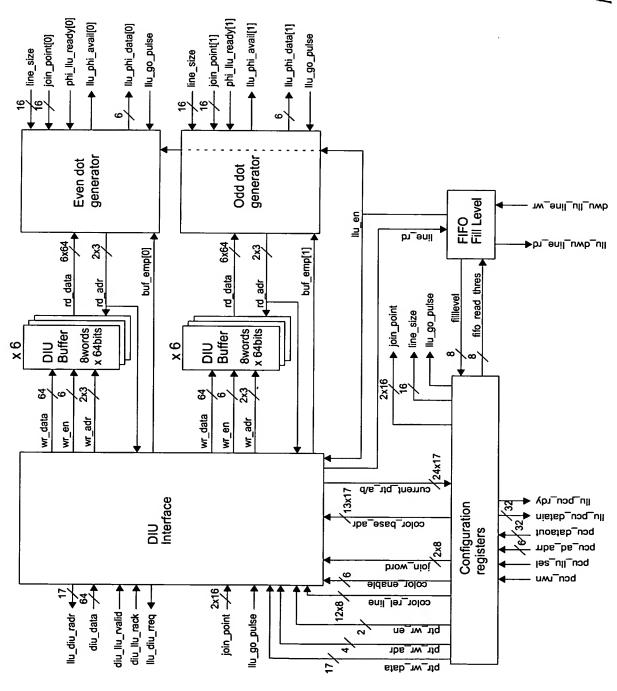


FIG. 272



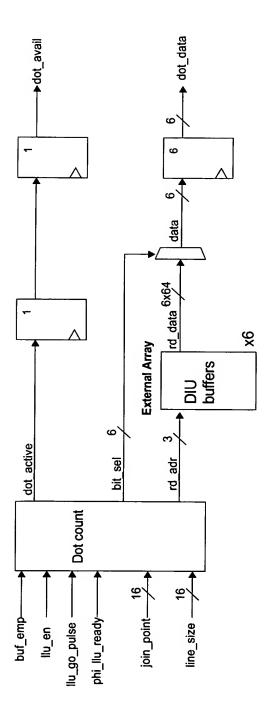
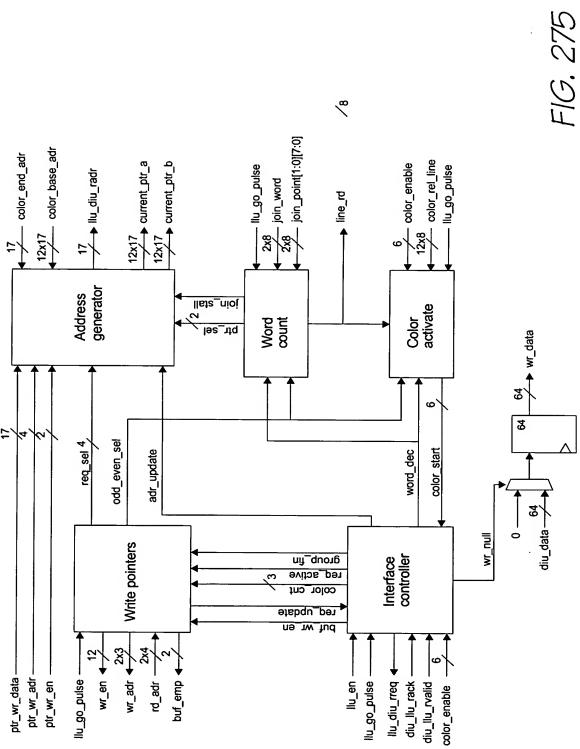
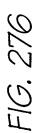
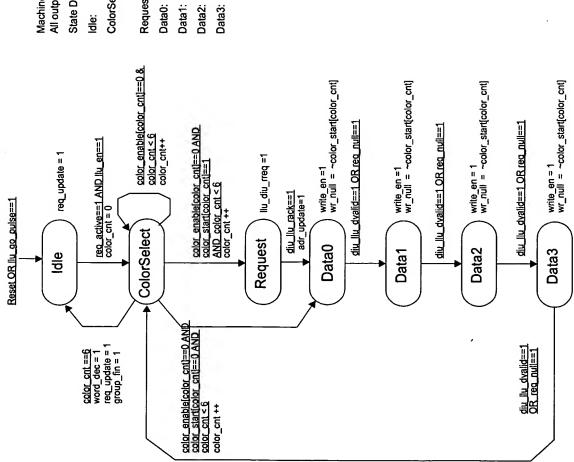


FIG. 274







All outputs are zero unless otherwise stated Machine remains in same state by default

State Description:

Idle state wait for active request

ColorSelect: Select the color to update before

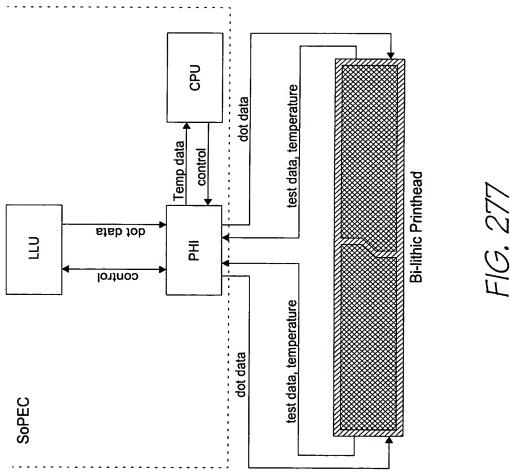
requesting to DIU

Request issued wait for acknowledge Request:

Data word 0 transfer

Data word 1 transfer Data word 2 transfer

Data word 3 transfer Data3:



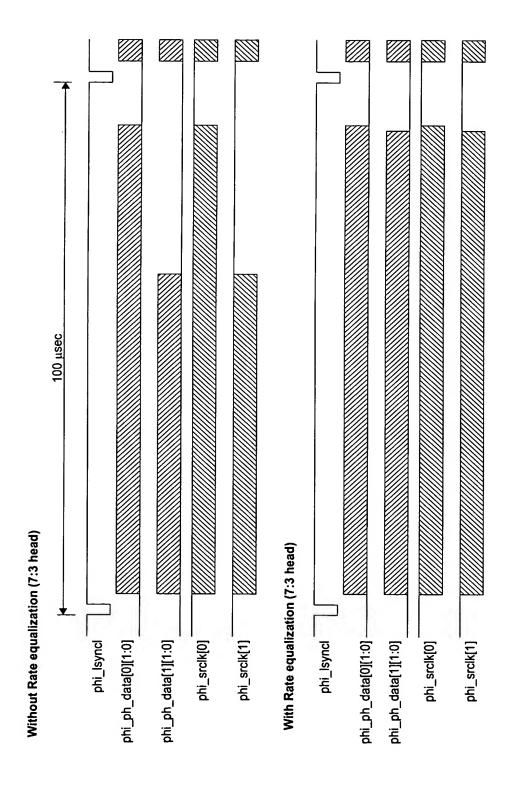
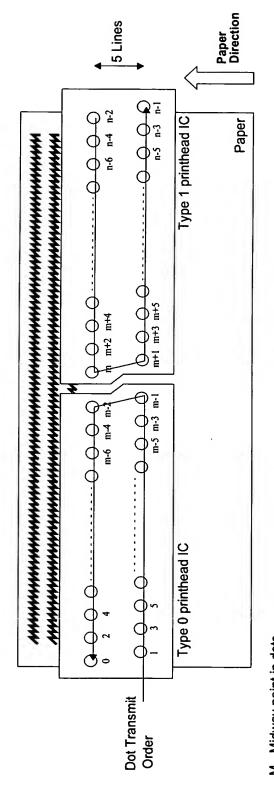


FIG. 279



M - Midway point in dots N - Number of dots in a line

Note: Paper passing under printhead

FIG. 280

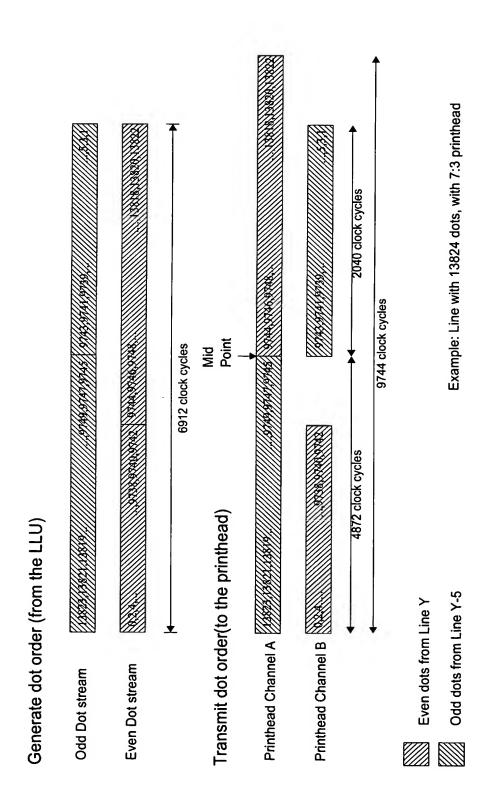
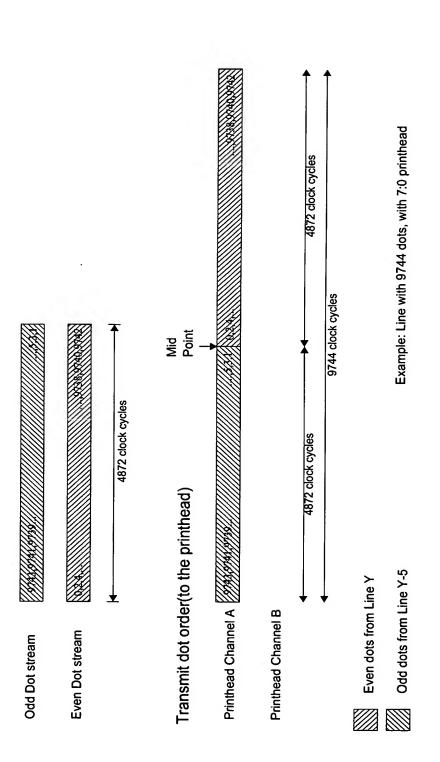
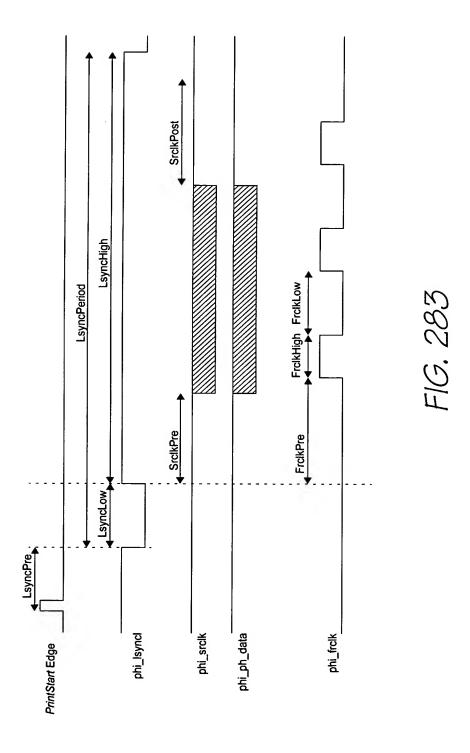


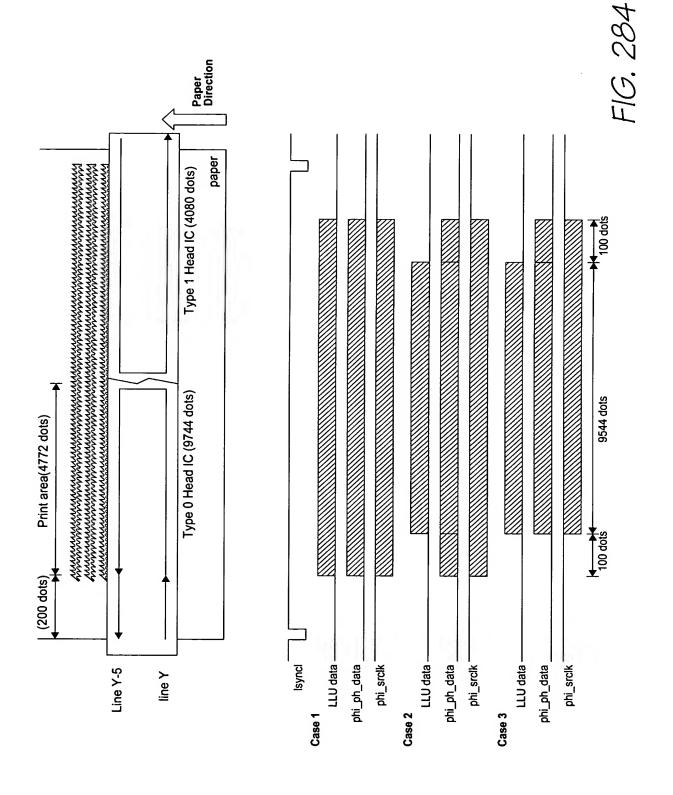
FIG. 281



Generate dot order (from the LLU)

FIG. 282





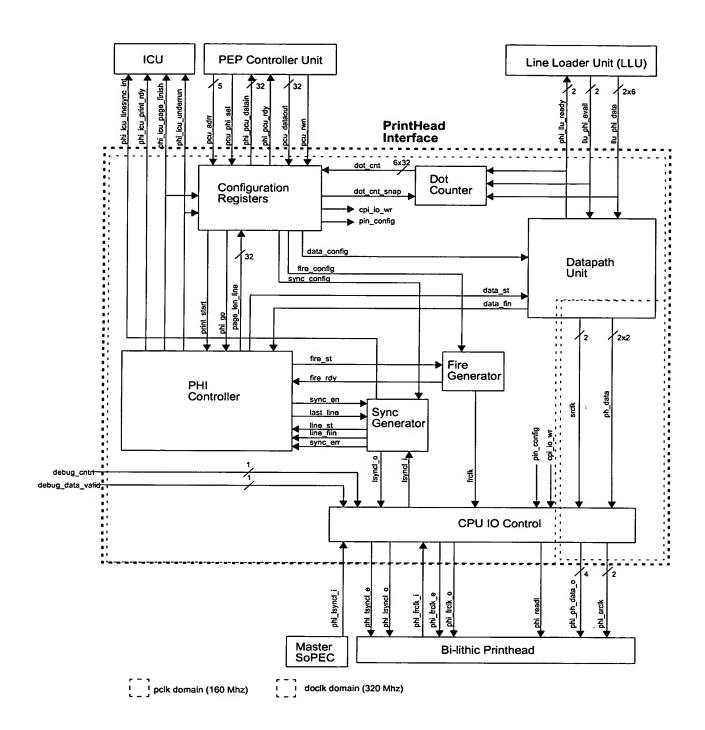
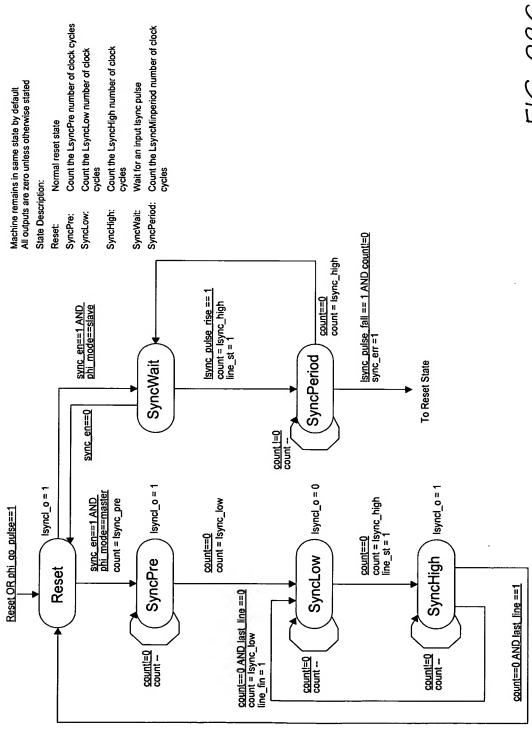
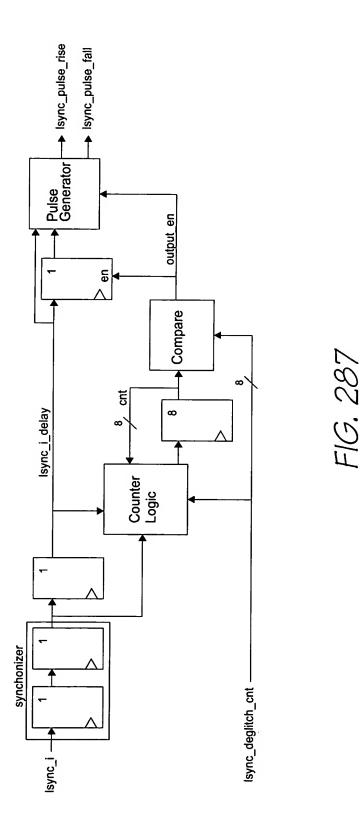
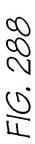


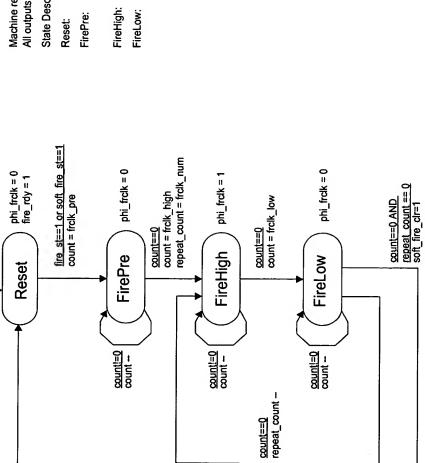
FIG. 285











All outputs are zero unless otherwise stated Machine remains in same state by default

Reset OR phi go pulse==1

State Description:

Normal reset state

Count the FrdkPre number of clock cycles, repeat count set to FrdkNum

Count the FrdkHigh number of clock cycles

Count the FrckLow number of clock cycles

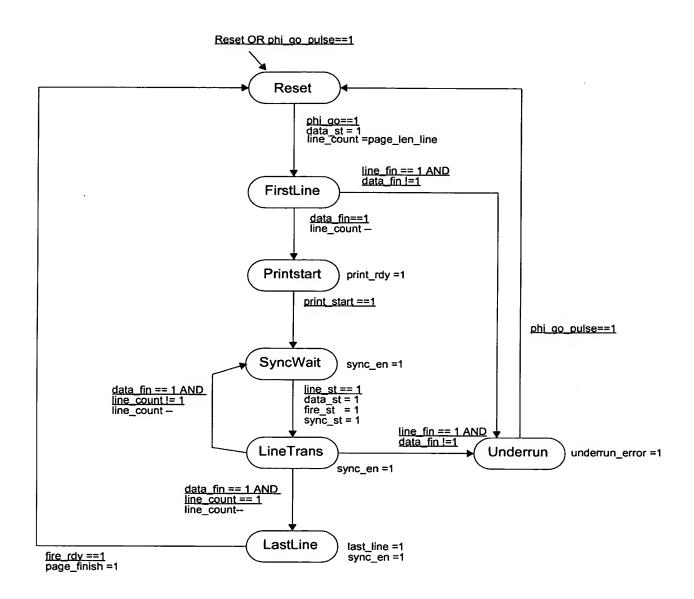


FIG. 289

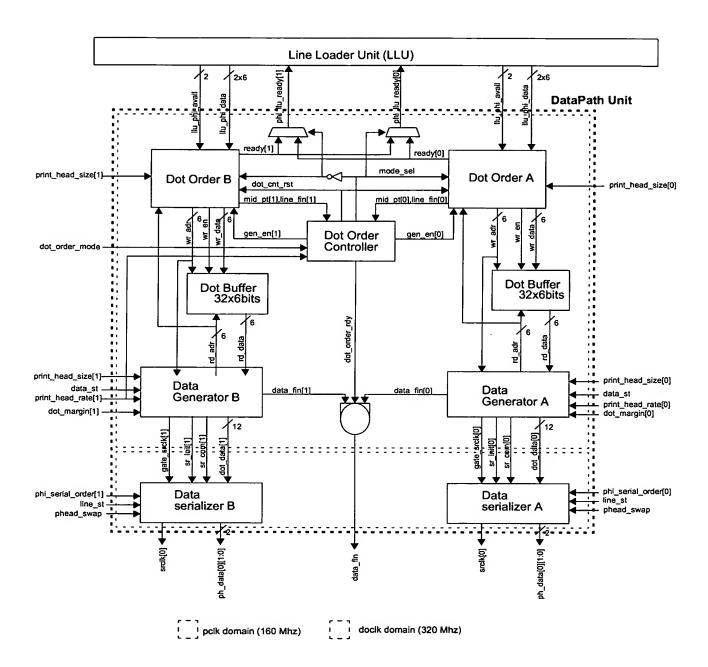
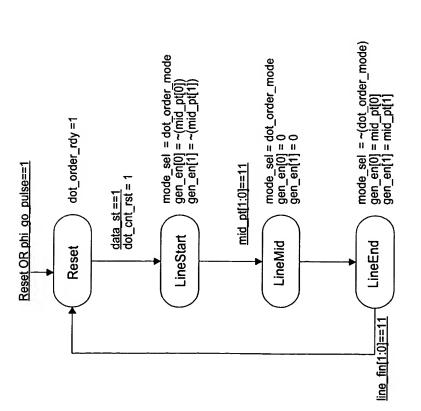


FIG. 290



Line end processing wait for both line_fin to be

Start processing first part of the line, wait for both mid_pt to be active
Switch over wait state allow pipeline to clear

Normal reset state

Reset:

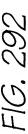
Linestart:

LineMid: LineEnd:

State Description:

Machine remains in same state by default All outputs are zero unless otherwise stated

FIG. 291





State Description:

Normal reset state Reset:

Count the SrclkPre number of clock SrclkPre:

DataGen1: Read Line Dot data from buffer cycles

DataGen2: Read Line Dot data from buffer

DataGen3: Data gen wait state

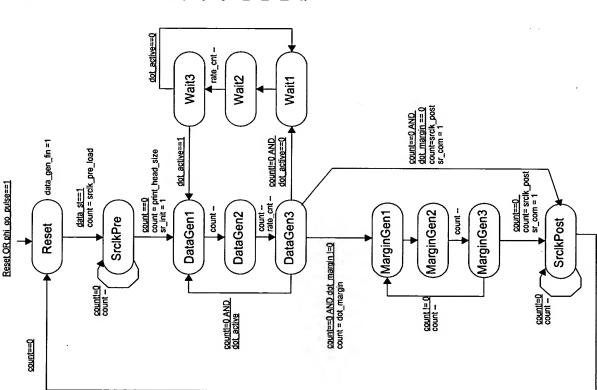
Data rate control wait state Wait1: Wait2:

Data rate control wait state Data rate control wait state Wait3:

MarginGen1:Generate DotMargin number of dots MarginGen2:Generate DotMargin number of dots

MarginGen3:Generate margin wait state

SrclkPost: Wait for SrclkPost number of cycles



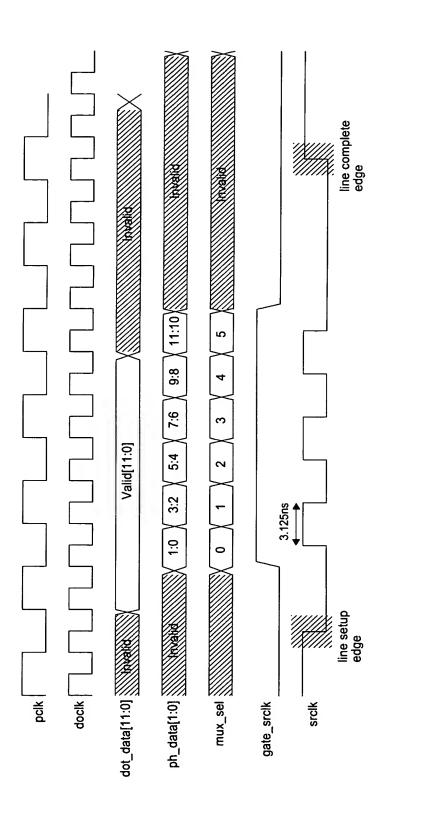


FIG. 293

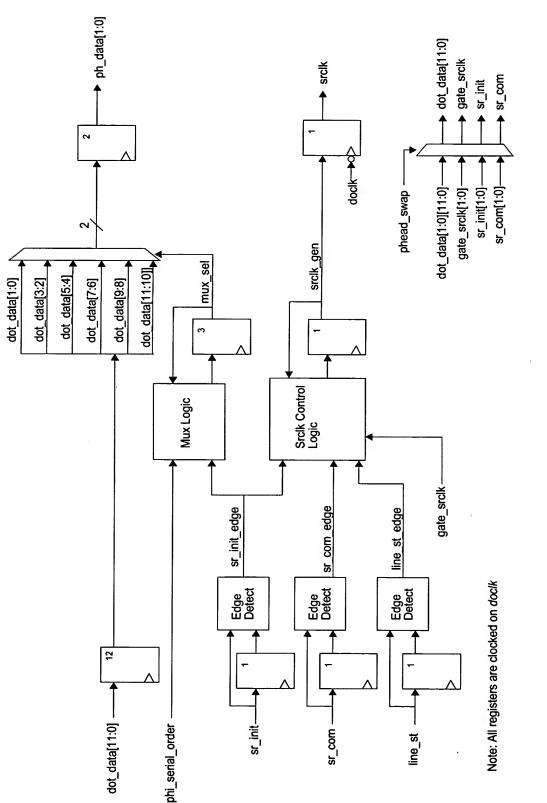


FIG. 294

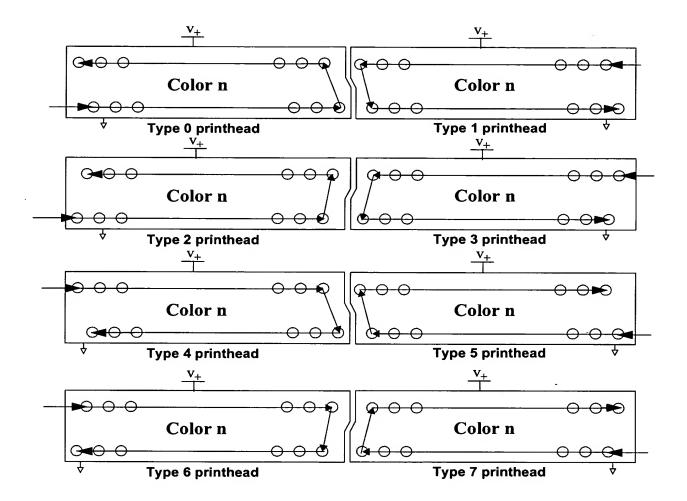


FIG. 295

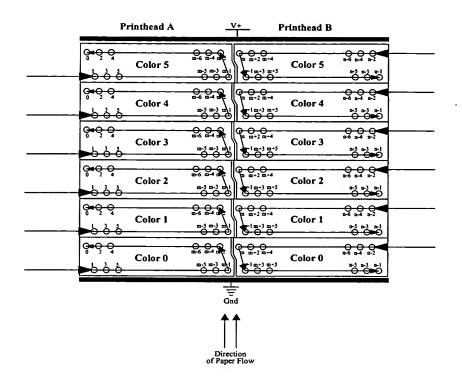


FIG. 296

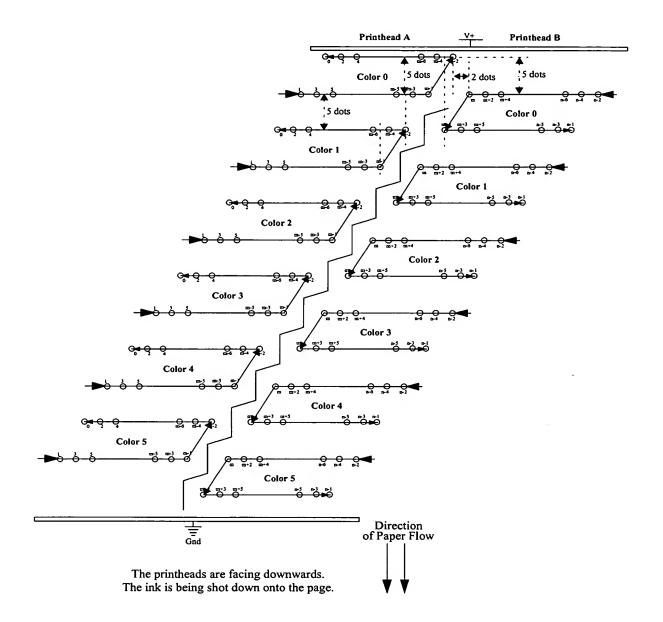


FIG. 297

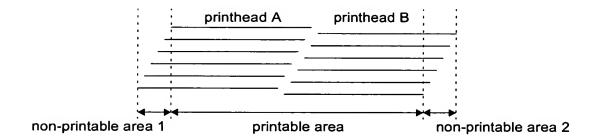


FIG. 298

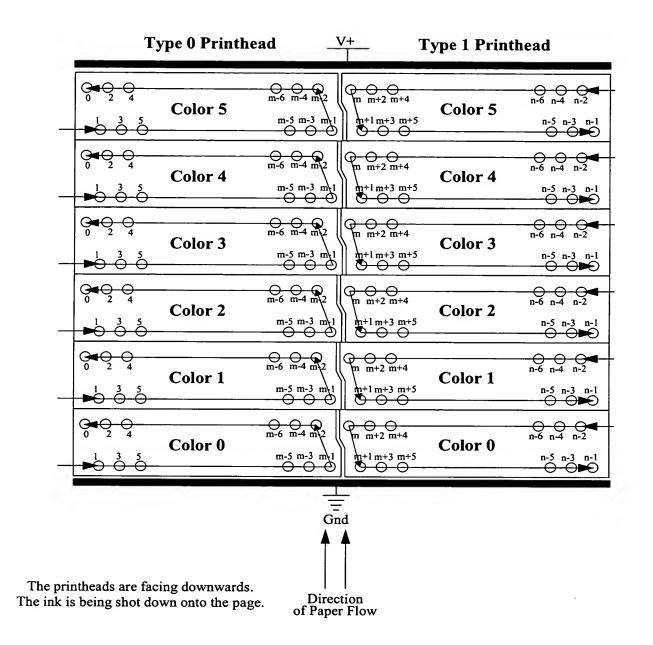


FIG. 299

259/331

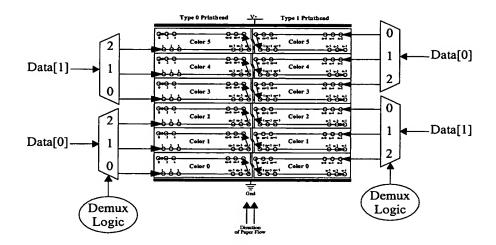


FIG. 300

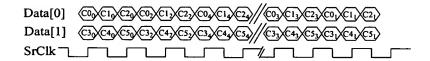


FIG. 301

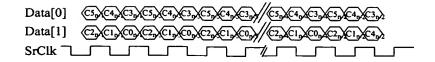


FIG. 302

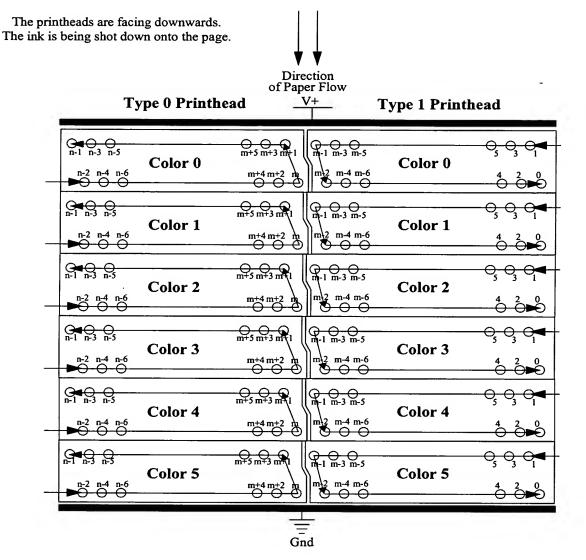


FIG. 303

261/331

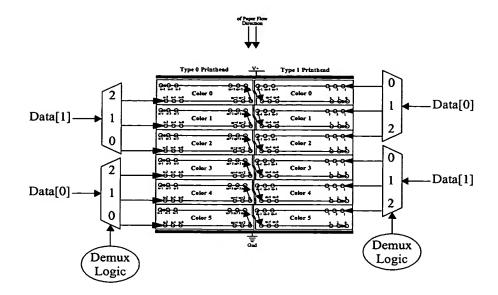


FIG. 304

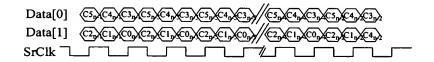


FIG. 305



FIG. 306

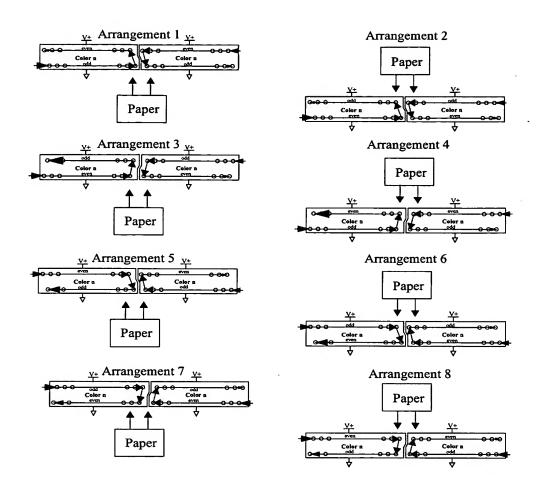


FIG. 307

The design of the second of th
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FIG. 308

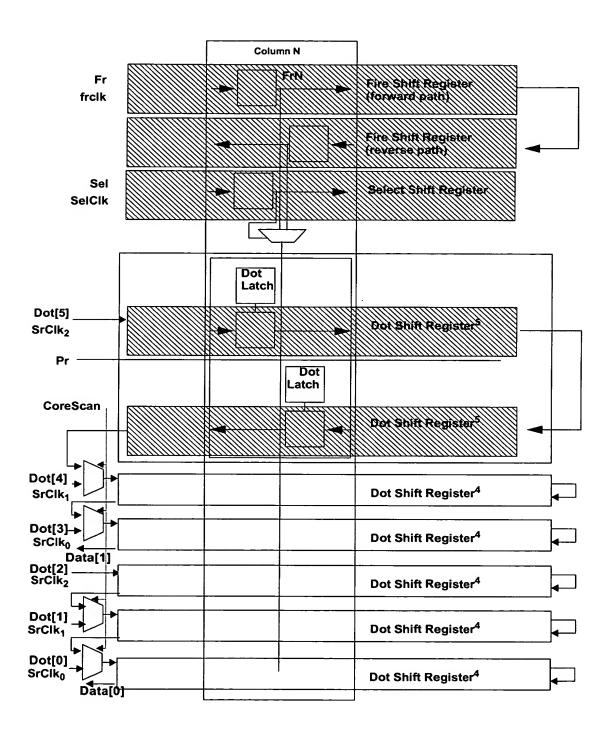


FIG. 309

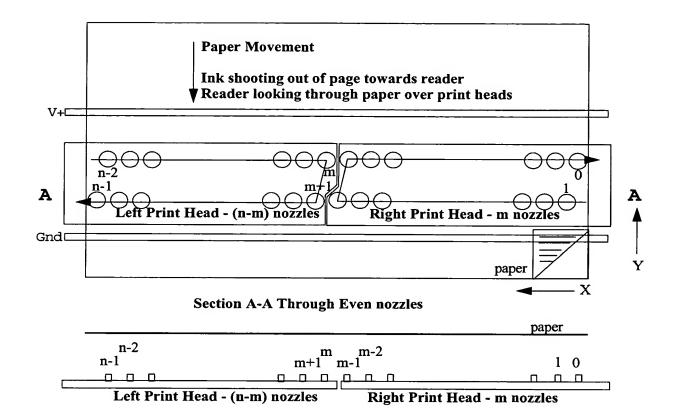


FIG. 310

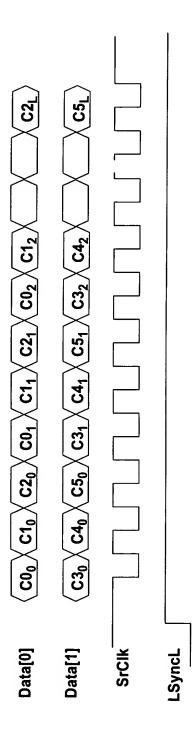


FIG. 311

	a) Printing every n th dot with all zero's in the fire select shift register	b) rimining every # _ uot with #iii one's in the life select smit register DOOD ON
8	a) Printi	

FIG. 312

select shift req	00000000000111111111110000000000111111
<pre>✓ register</pre>	0000000000100000000010000000001000000
Tire shift	100000000001000000000010000000001000000

FIG. 313

0001000000000 — 00000000010000000001000000000	0010000000001	1111111111000000000001111111111000000	Right Print Head Fire/Select SR
8	1	П	R1
	→		
000	.001	.111	SR
.0001000000	.0010000000	0001111111111	Head Fire/Select SR
	:	:	lead
000100000	0000000000	110000000	Left Print Head
100000000010000000001000000	000000000100000000010000000	00000000001111111110000000	Left Print Head

FIG. 314

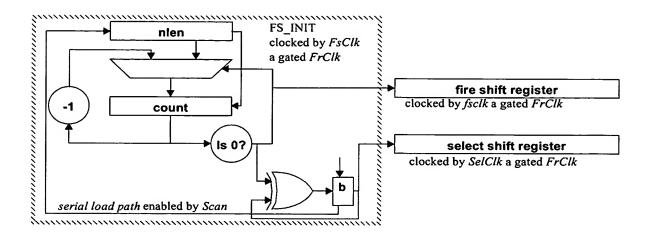


FIG. 315

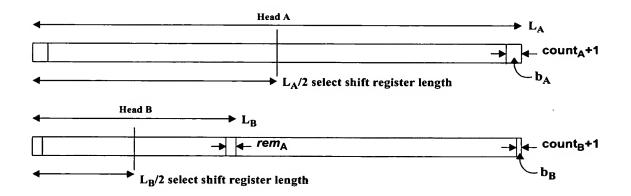


FIG. 316

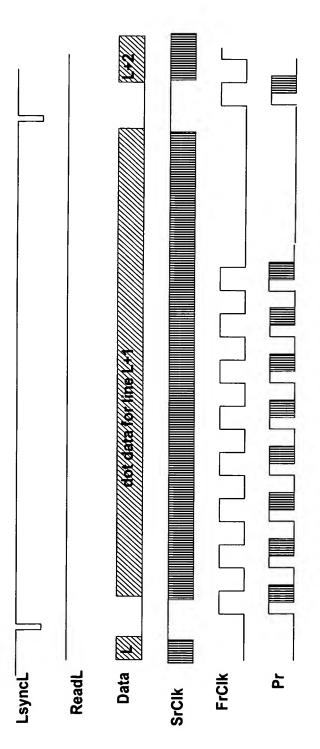


FIG. 317

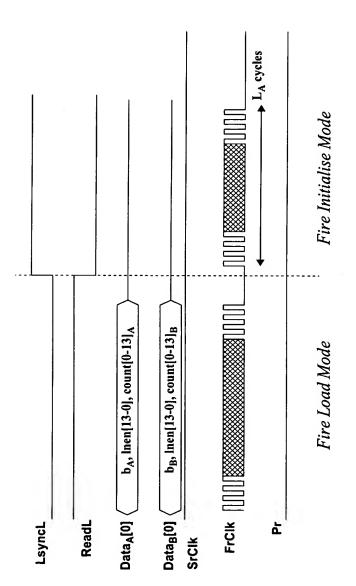
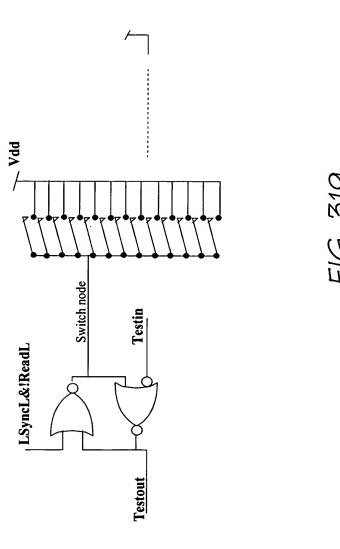


FIG. 318



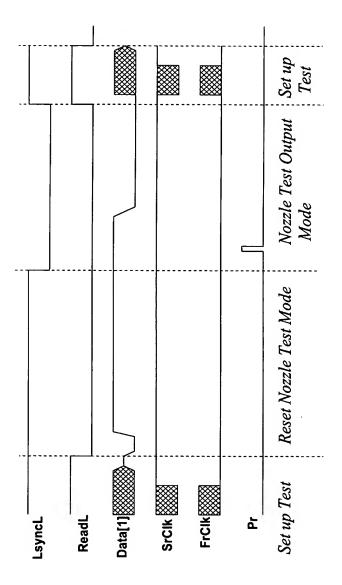


FIG. 320

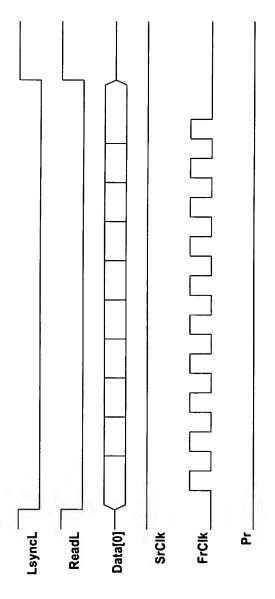


FIG. 321

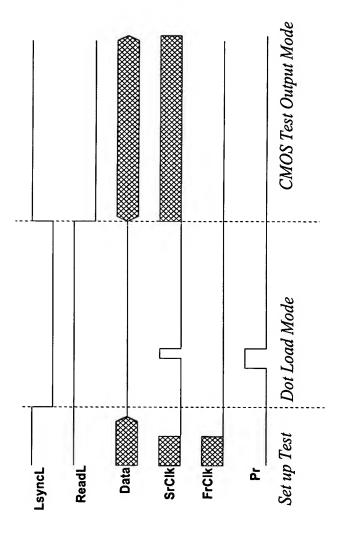


FIG. 322

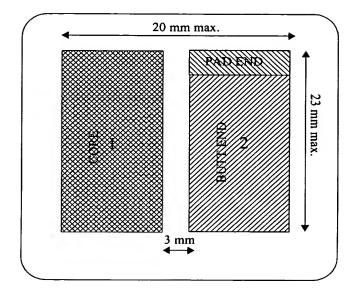


FIG. 323

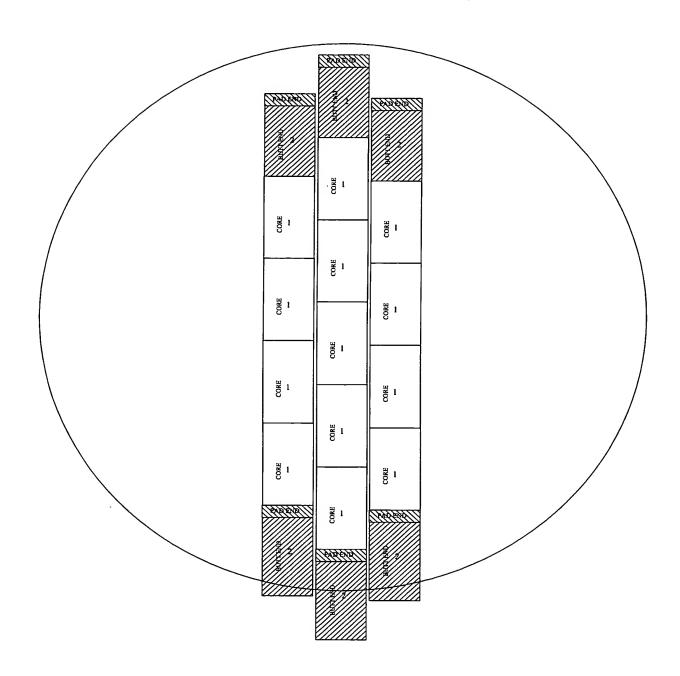
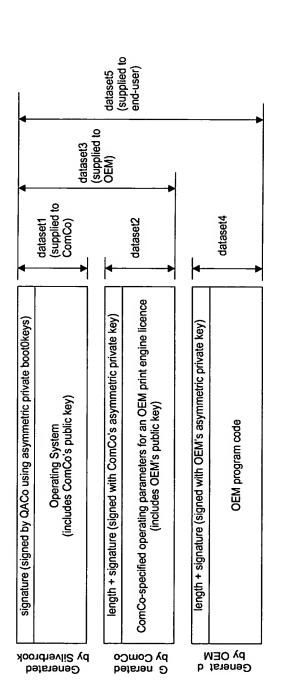
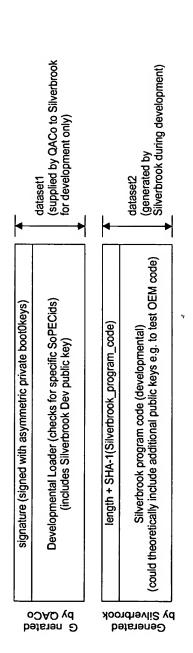


FIG. 324

FIG. 325





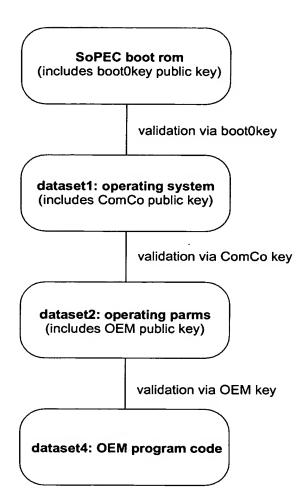


FIG. 326

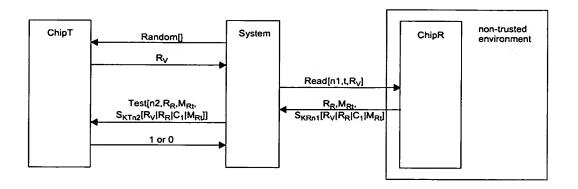


FIG. 328

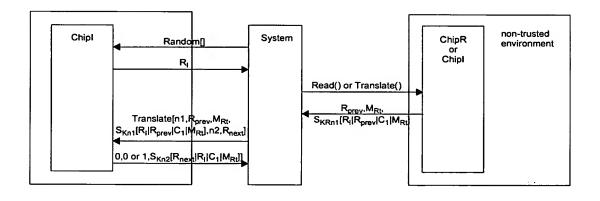


FIG. 329

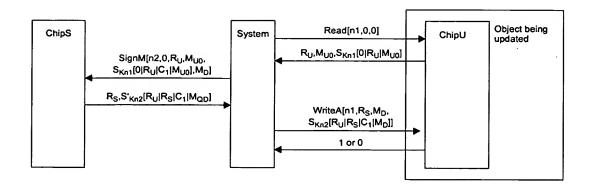


FIG. 330

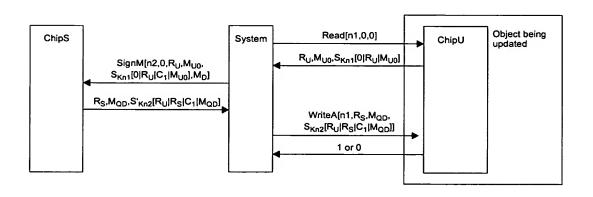


FIG. 331

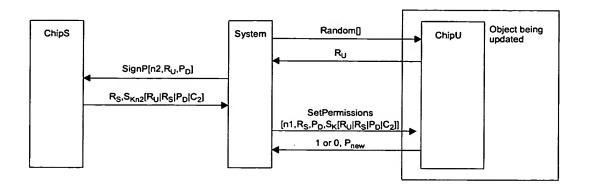


FIG. 332

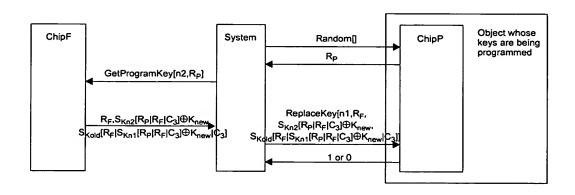


FIG. 333

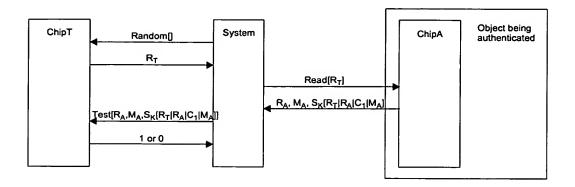


FIG. 334

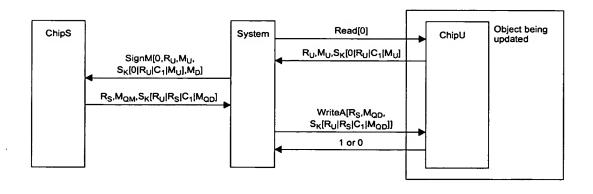


FIG. 335

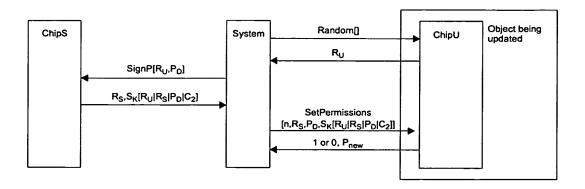


FIG. 336

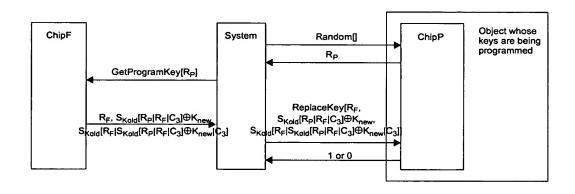


FIG. 337

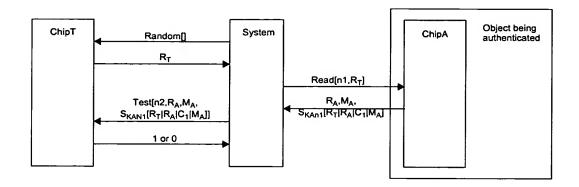


FIG. 338

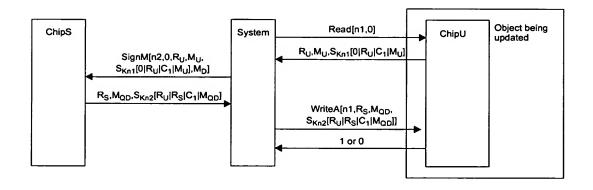


FIG. 339

286/331

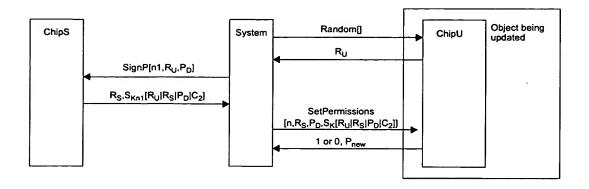


FIG. 340

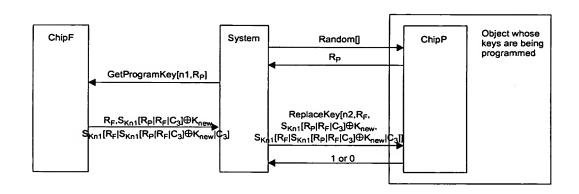


FIG. 341

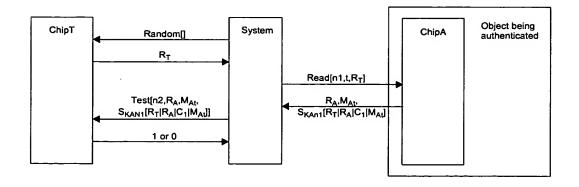


FIG. 342

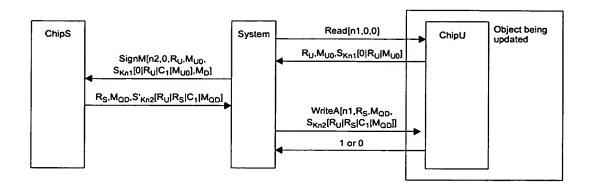


FIG. 343

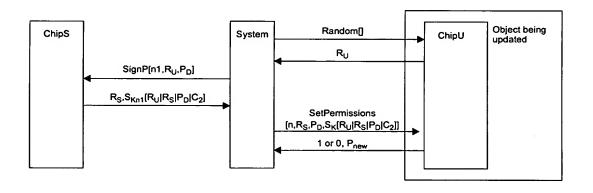


FIG. 344

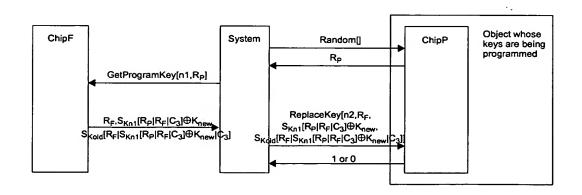


FIG. 345

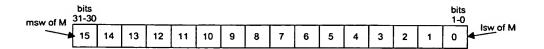


FIG. 346

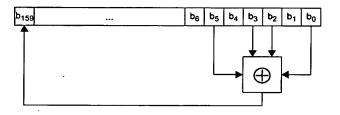


FIG. 347

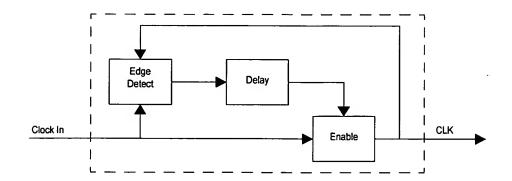


FIG. 348

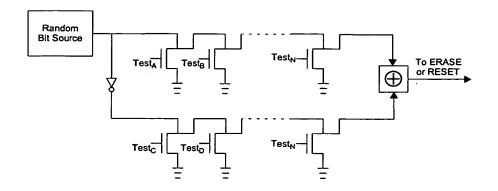


FIG. 349

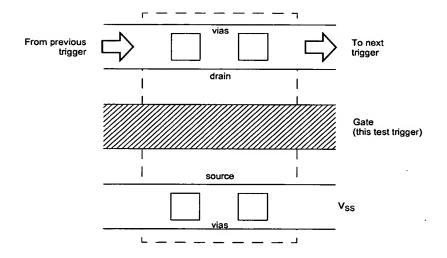


FIG. 350

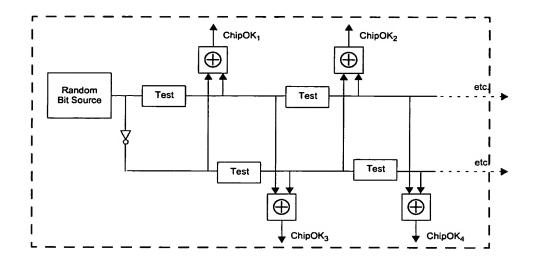


FIG. 351

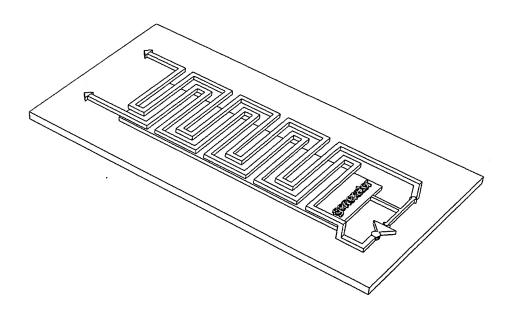


FIG. 352

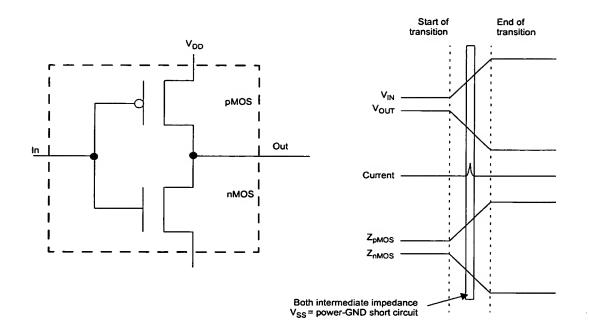


FIG. 353

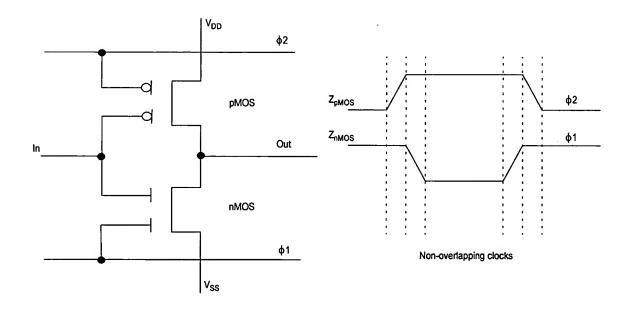


FIG. 354

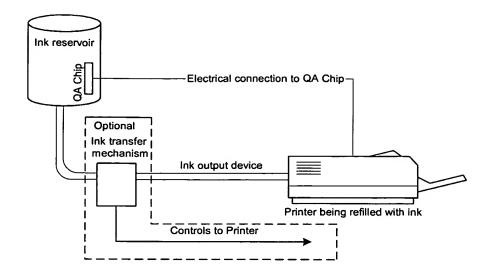


FIG. 355

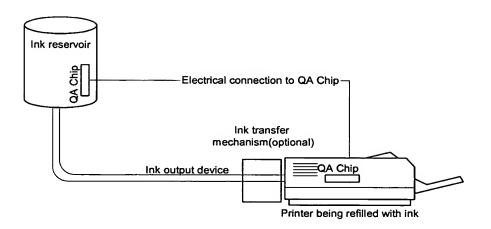


FIG. 356

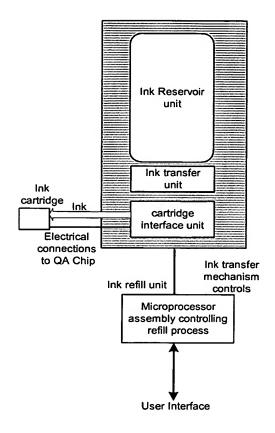


FIG. 357

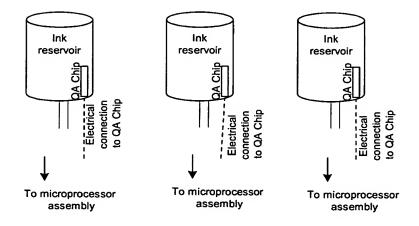


FIG. 358

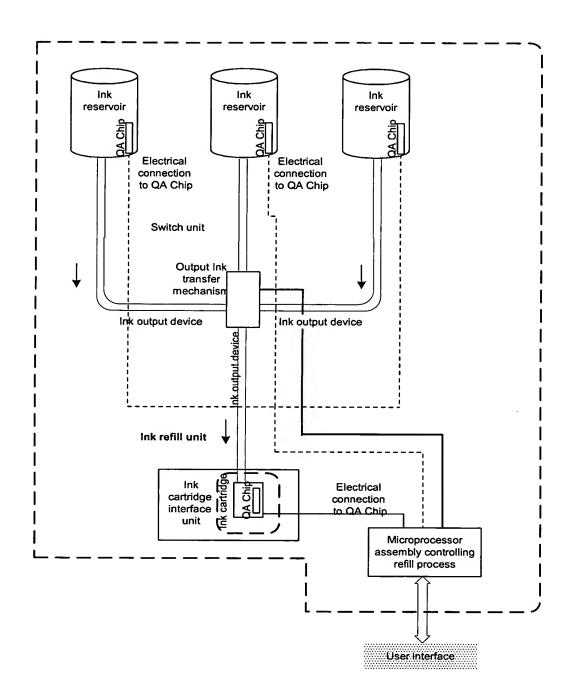


FIG. 359

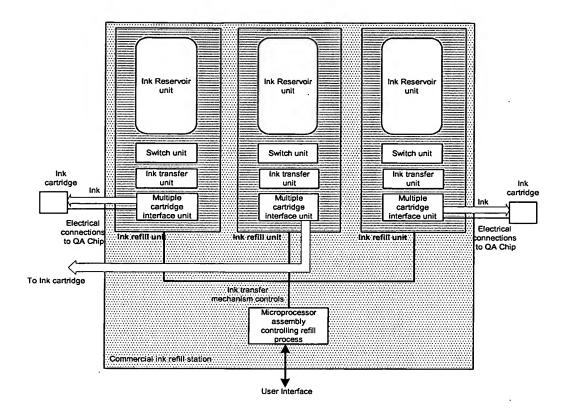


FIG. 360

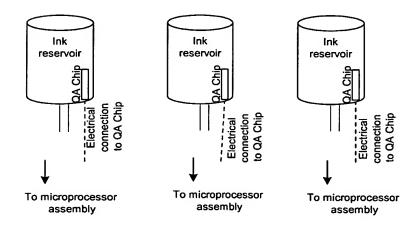


FIG. 361

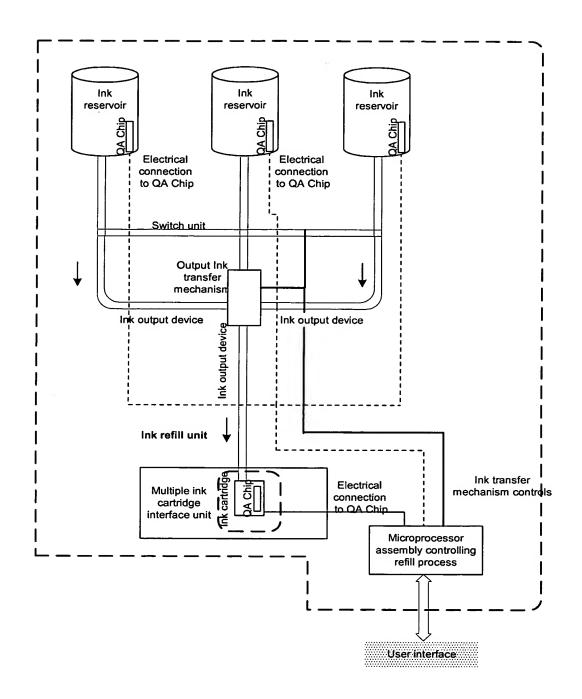


FIG. 362

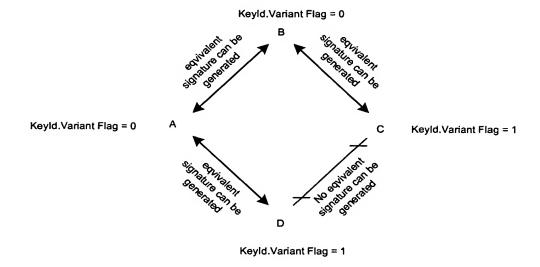


FIG. 363

3 <u>1</u>	17	16 4	3 0	
(Type 15 bits)	Permissions (13 bits)	Size and Position (4 bits)	

FIG. 364

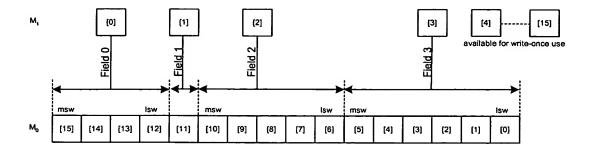


FIG. 365

16	14	13	12	11	4
KeyNum (3 bits)		NonAuthRW (1 bit)	AuthRW (1 bit)	KeyPerms (8 bits)	

FIG. 366

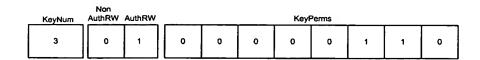


FIG. 367

KeyNum	Non AuthRW	AuthRW		KeyPerms							
3	1	1	0	0	0	0	1	1	1	0	

FIG. 368

3	17	16 14	13	12	11	4 3	0
	Type (15 bits)	KeyNum (3 bits)	NonAuth RW (1 bit)	AuthRW (1 bit)	KeyPerms (8 bits)	EndPos (4 bits)	

FIG. 369

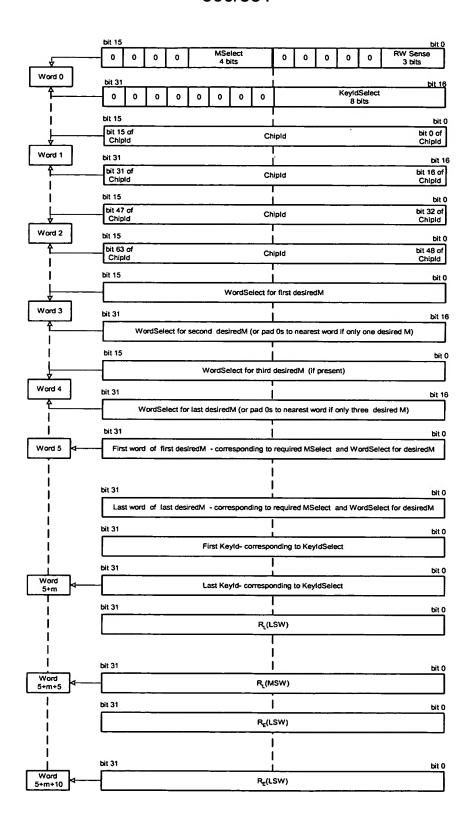


FIG. 370

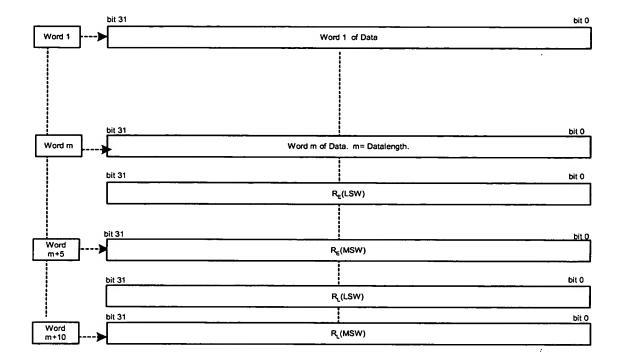


FIG. 371

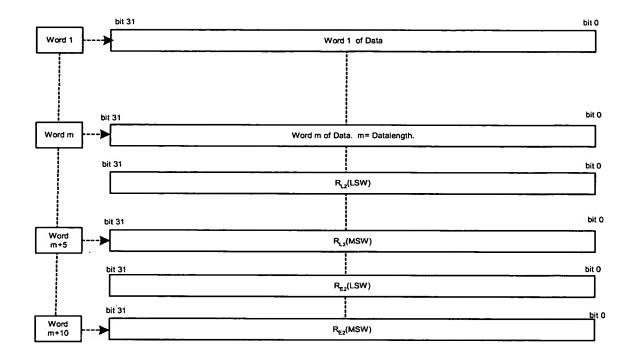


FIG. 372

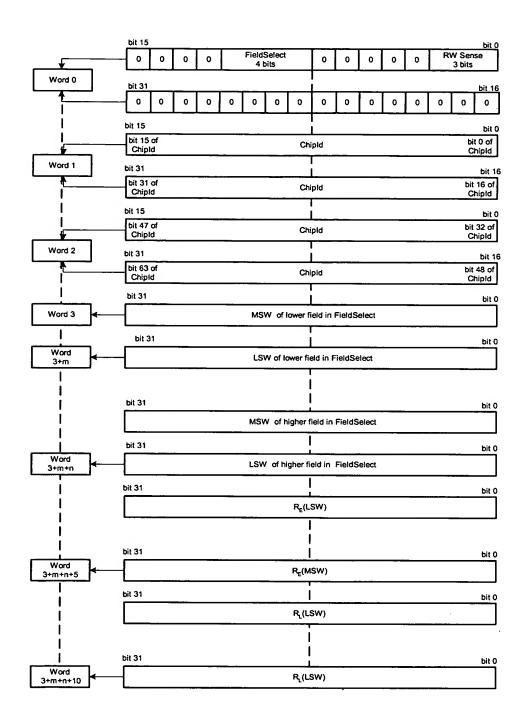


FIG. 373

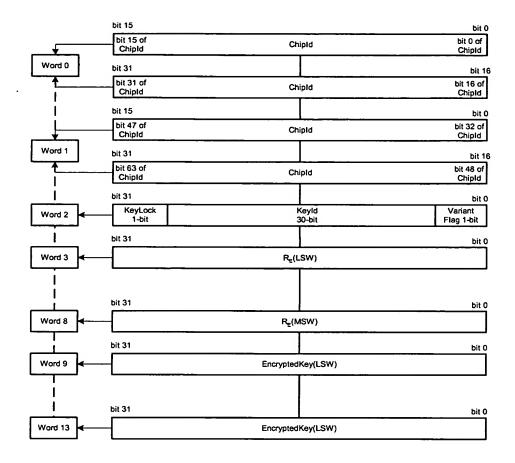


FIG. 374

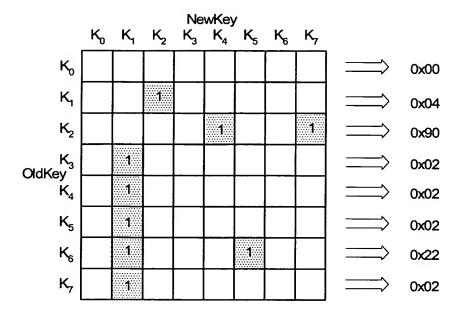


FIG. 375

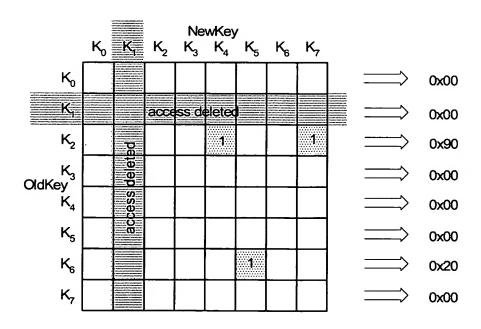


FIG. 376

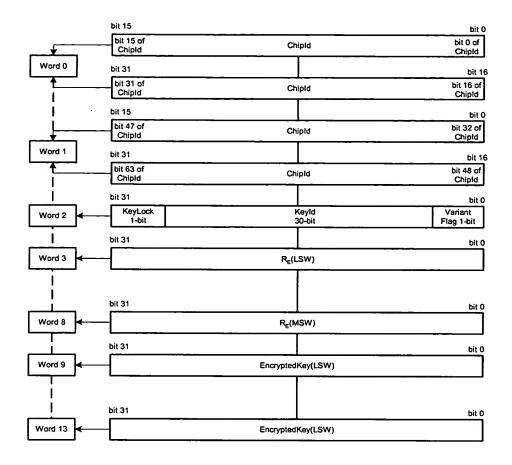


FIG. 377

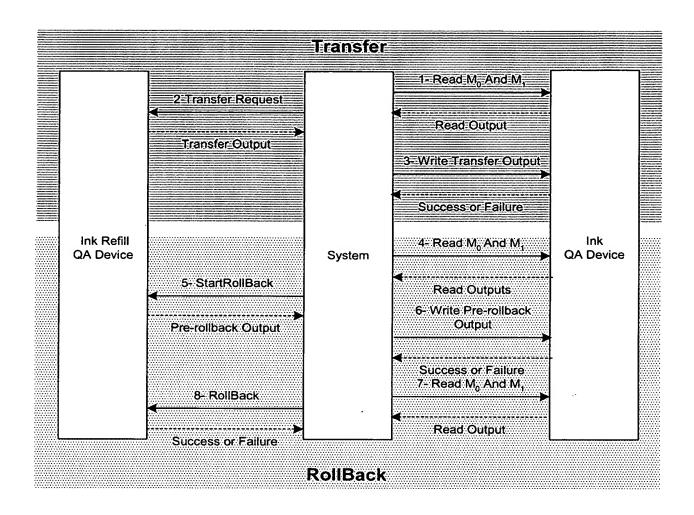


FIG. 378

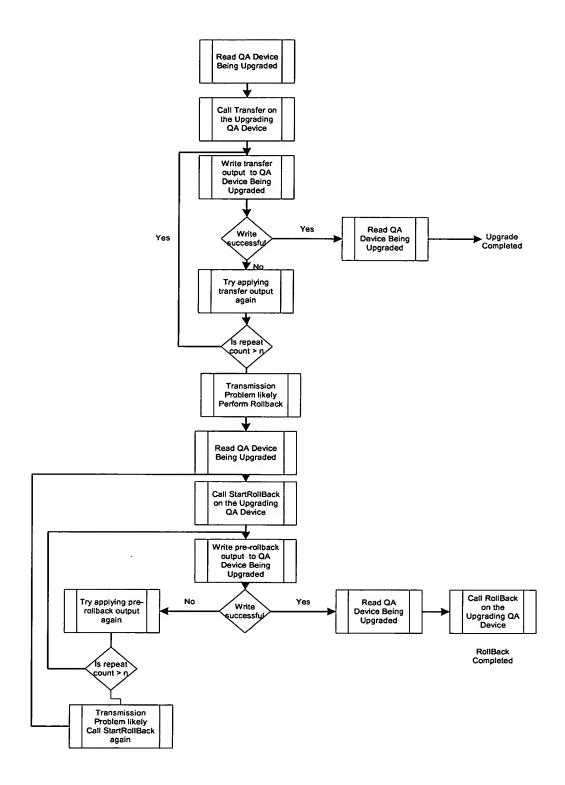


FIG. 379

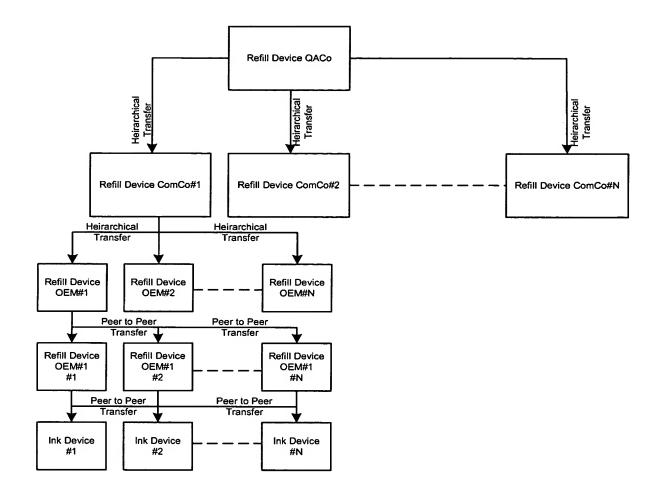


FIG. 380

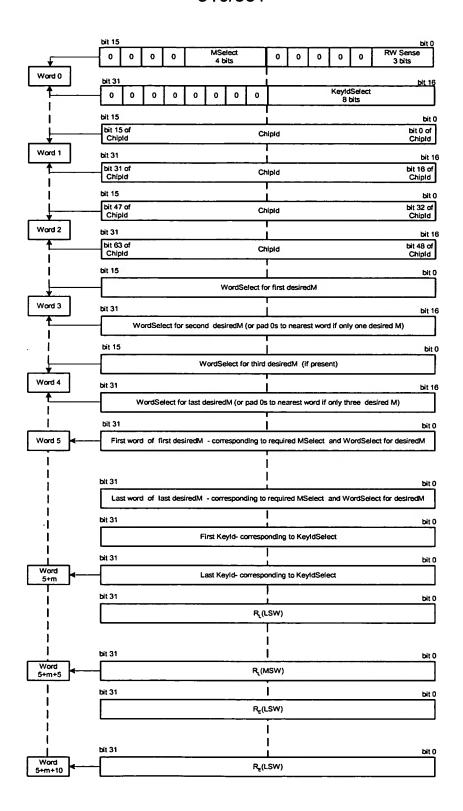


FIG. 381

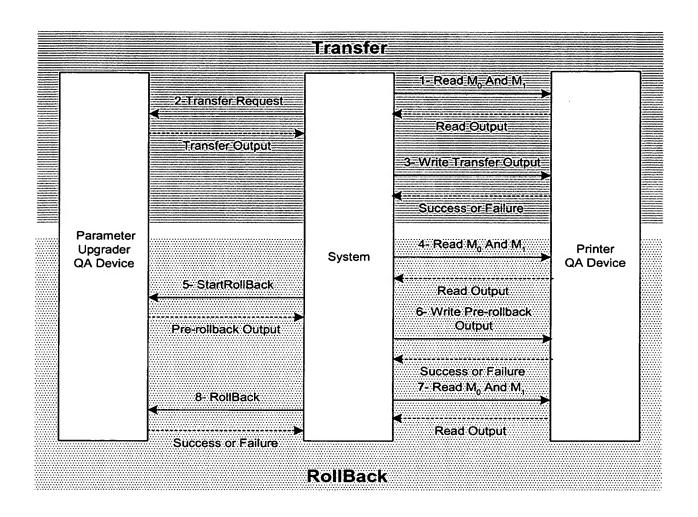


FIG. 382

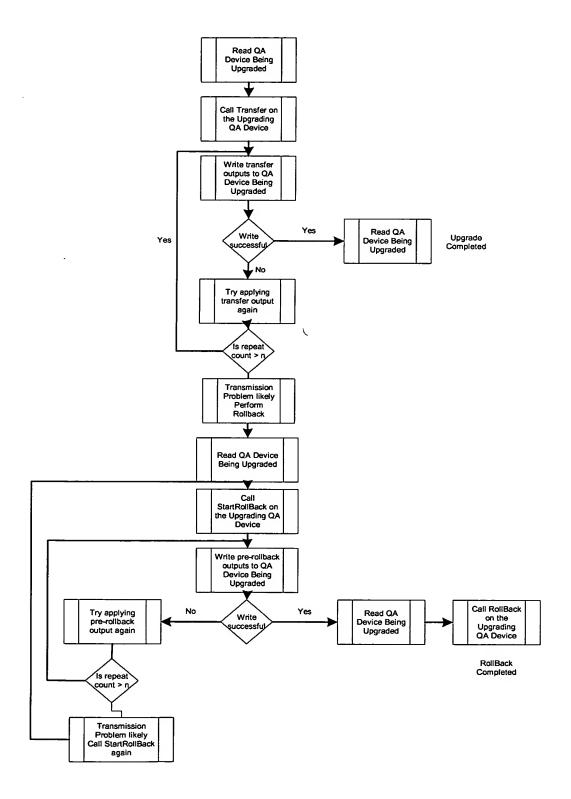


FIG. 383

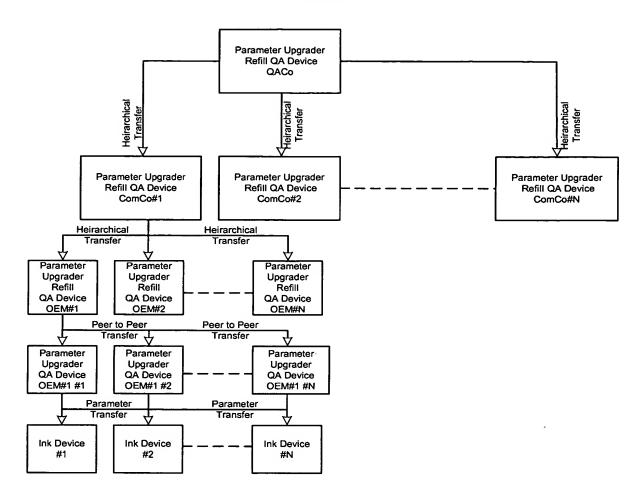


FIG. 384

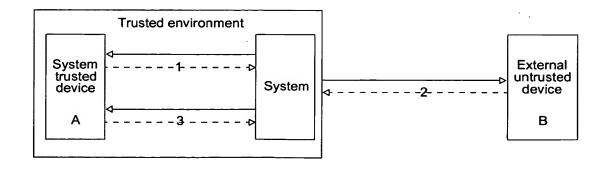


FIG. 385

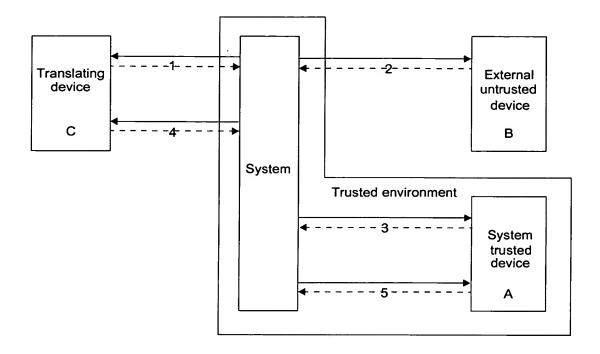


FIG. 386

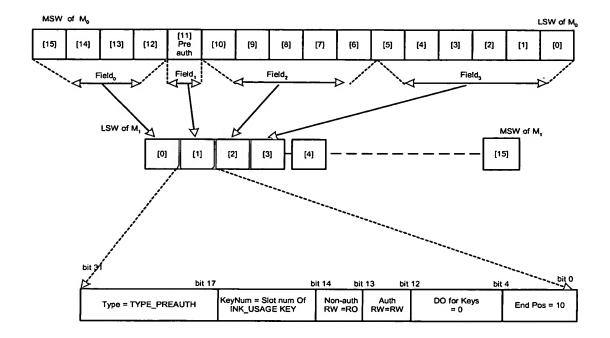


FIG. 387

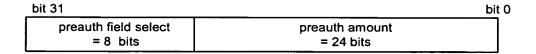


FIG. 388

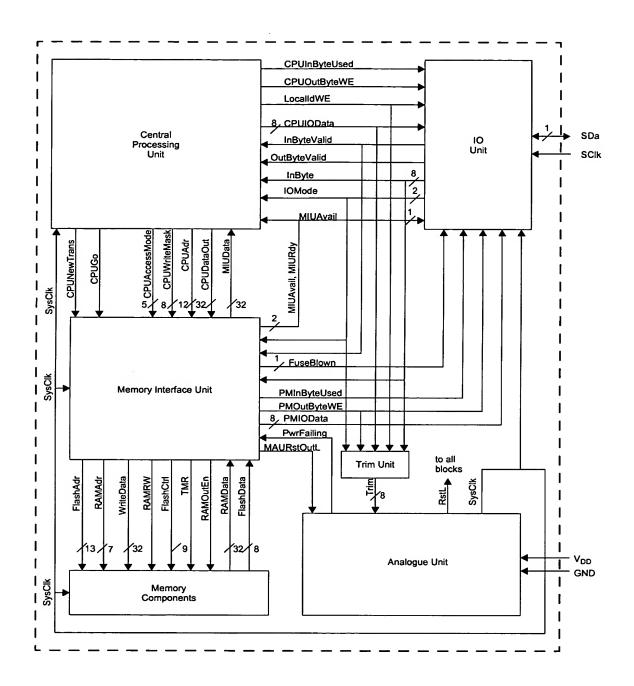


FIG. 389

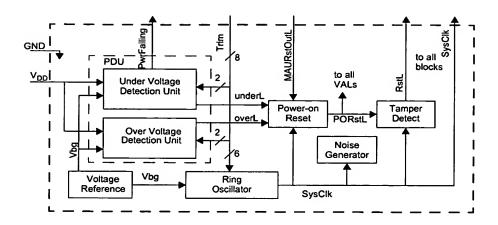


FIG. 390

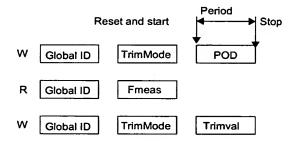


FIG. 391

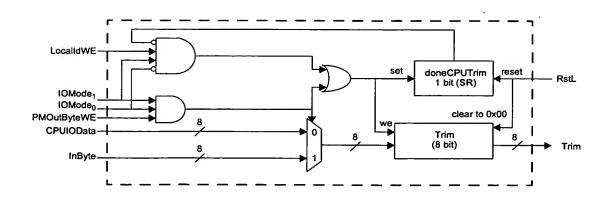


FIG. 392

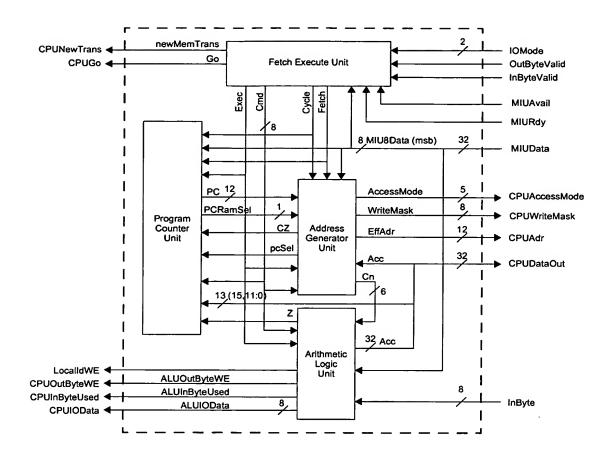


FIG. 393

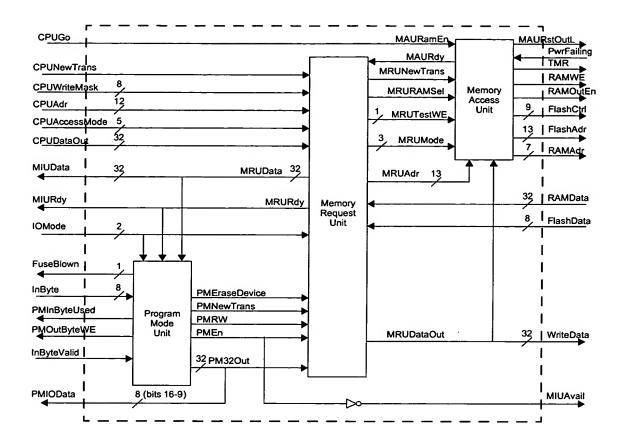


FIG. 394

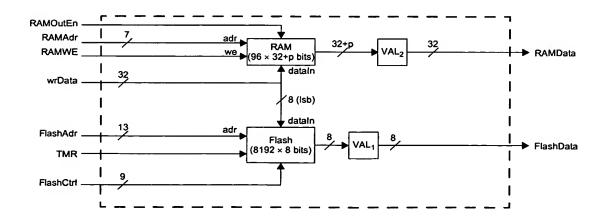


FIG. 395

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
PriID6	PriID5	PrilD4	PriID3	PrilD2	PrilD1	PriID0	R/*W 0 = write 1 = read

FIG. 396

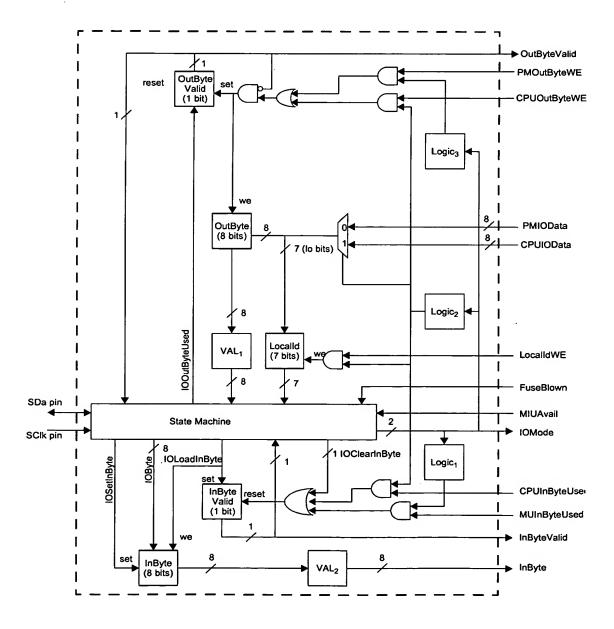


FIG. 397

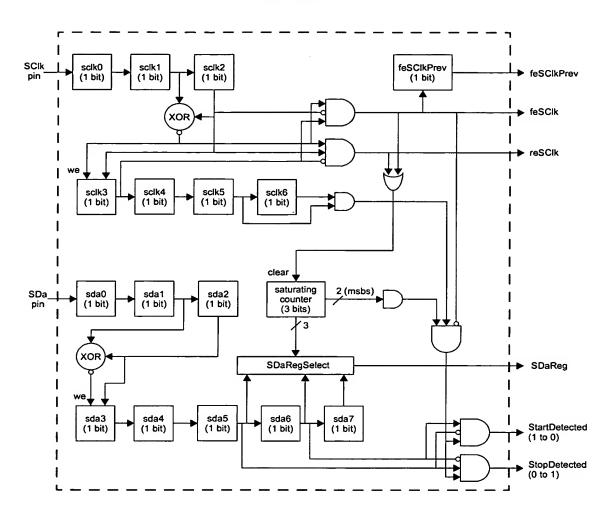


FIG. 398

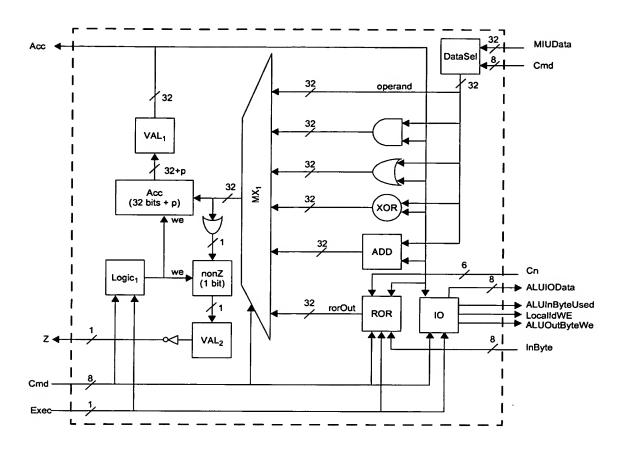


FIG. 399

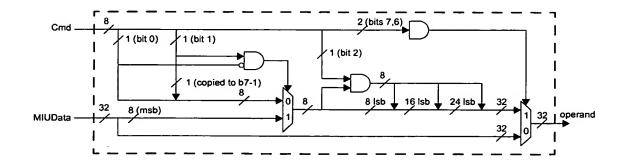


FIG. 400

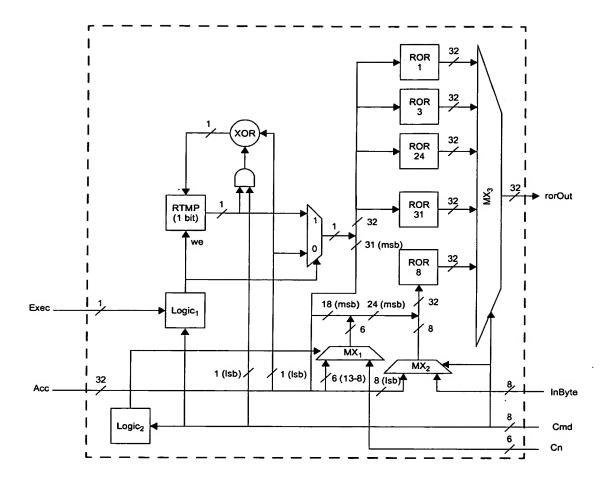


FIG. 401

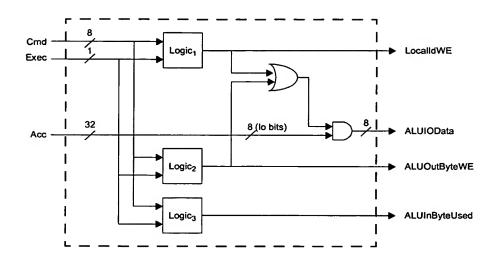


FIG. 402

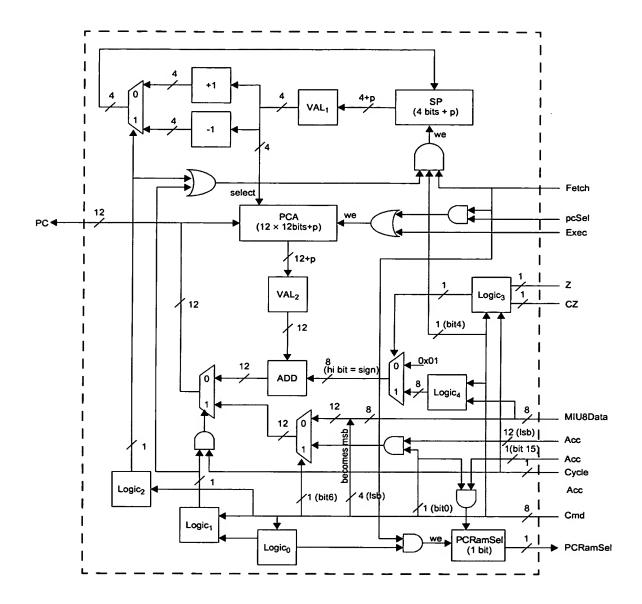


FIG. 403

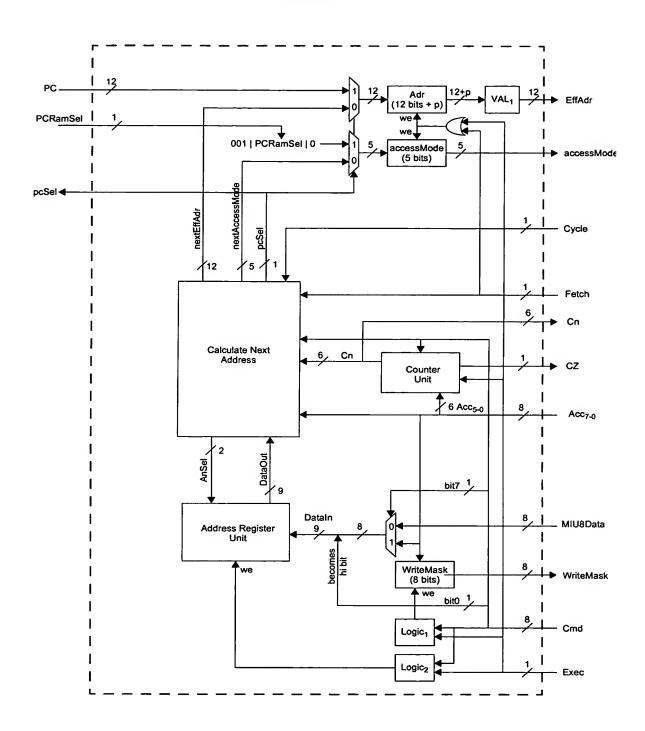


FIG. 404

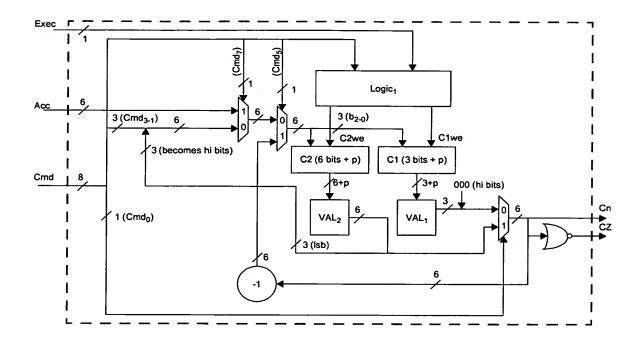


FIG. 405

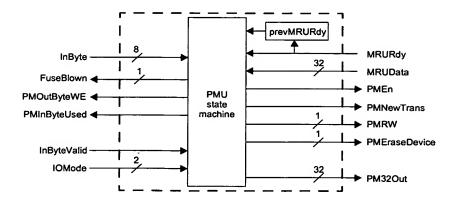


FIG. 406

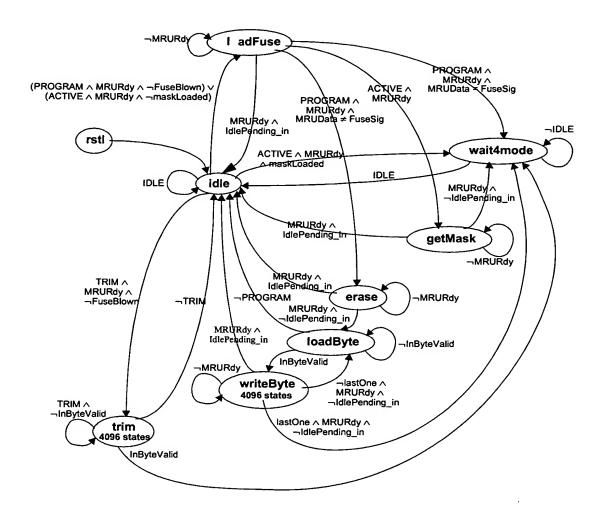


FIG. 407

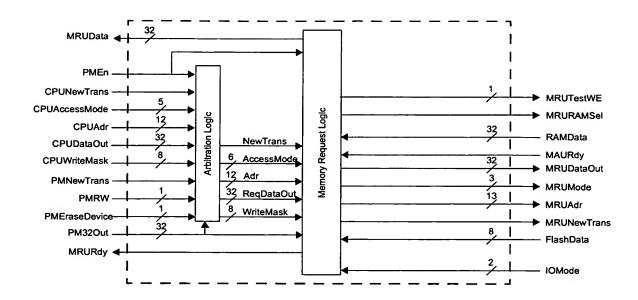


FIG. 408

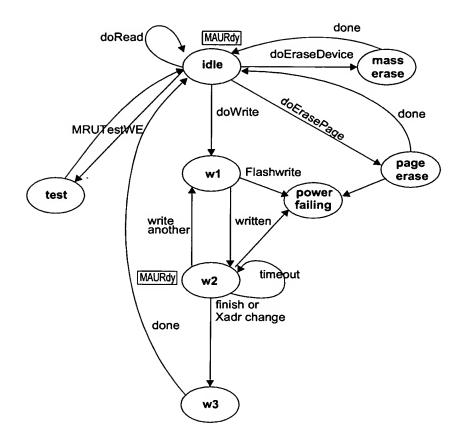


FIG. 409

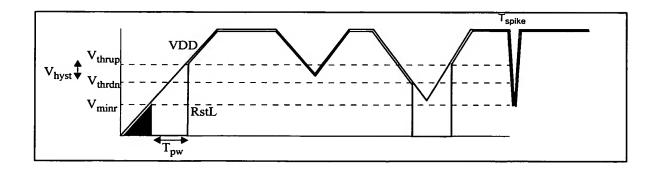


FIG. 410

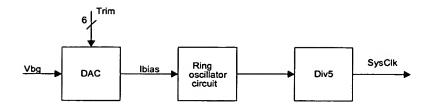


FIG. 411

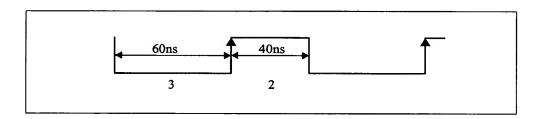


FIG. 412

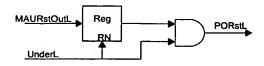


FIG. 413